

uvby- β photometry of high-velocity and metal-poor stars

X. Stars of very low metal abundance: observations, reddenings, metallicities, classifications, distances, and relative ages[★]

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Abstract. *uvby*($-\beta$) photometry has been obtained for an additional 411 very metal-poor stars selected from the HK survey, and used to derive basic parameters such as interstellar reddenings, metallicities, photometric classifications, distances, and relative ages. Interstellar reddenings adopted from the Schlegel et al. (1998) maps agree well with those from the intrinsic-color calibration of Schuster & Nissen (1989). [Fe/H] values are obtained from the CaII K line index of the HK survey combined with the *uvby* and *UBV* photometry. The $c_0, (b-y)_0$ diagram is seen to be very useful for classifying these very metal-poor field stars into categories similar to those derived from globular cluster color-magnitude diagrams; it is found that the HK survey has detected metal-poor candidates extending from the red-giant to the blue-horizontal branch, and from the horizontal branch to subluminous stars. Distances derived from *UBV* photometry agree reasonably well with those from *uvby*, considering the paucity of good calibrating stars and the extrapolations required for the most metal-poor stars. These very metal-poor stars are compared to M92 in the $c_0, (b-y)_0$ diagram, and evidence is seen for field stars 1–3 Gyrs younger than this globular cluster; uncertainties in the [Fe/H] scale for M92 would only tend to increase this age difference, and significant reddening uncertainties for M92 are unlikely but might decrease this difference. The significance of these younger very metal-poor stars is discussed in the context of Galactic evolution, mentioning such possibilities as hierarchical star-formation/mass-infall of very metal-poor material and/or accretion events whereby this material has been acquired from other (dwarf) galaxies with different formation and chemical-enrichment histories.

Key words. stars: abundances – stars: distances – stars: fundamental parameters – dust, extinction – Galaxy: evolution – Galaxy: halo

1. Introduction

Over the past two decades, our collective knowledge of the nature of the thick disk and halo of the Galaxy has expanded enormously, due primarily to the impact of several ongoing large-scale survey efforts carried out to detect and analyze metal-poor stars. These include the HK survey of Beers and collaborators (Beers, Preston, & Shectman 1992; Beers 1999) and the Hamburg/ESO stellar survey of Christlieb & collaborators (Christlieb 2003), both of which select stars with objective-prism techniques, and hence introduce no kinematic bias into their samples. Such biases are present (and must be corrected for) in proper-motion selected survey samples, such as the exhaustive previous studies of, e.g., Ryan & Norris (1991) and Carney et al. (1996). The prism-survey selected samples are hence well suited for studies of the kinematics and dynamics of the old stellar populations of the Milky Way, in particular because of the burgeoning databases of proper motion information that are presently being as-

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[★] Based on observations collected at the H.L. Johnson 1.5 m telescope at the Observatorio Astronómico Nacional at San Pedro Mártir, Baja California, México, and at the Danish 1.5 m telescope, La Silla, Chile.

sembled from a variety of sources (e.g., UCAC2: Zacharias 2002; SPM: Girard et al. 2003). In order to make optimal use of the proper motions for kinematic analyses, accurate stellar classifications, and photometrically determined distances, are crucial.

The *uvby- β* photometric system is particularly suited for the study of very-metal-poor (hereafter, VMP) F- and G-type stars, as has already been pointed out in Paper VIII by Schuster et al. (1996; hereafter S96). Briefly, intrinsic-color calibrations, $(b-y)_0-\beta$, exist which allow accurate and precise, $\pm 0^m01$, measures of interstellar reddening excesses, $E(b-y)$, for individual field stars; such a calibration has been given by Schuster & Nissen (1989). Photometric absolute magnitudes and distances can be calibrated and used effectively, as shown in the papers by Olsen (1984) and Nissen & Schuster (1991). This photometric system has the great advantage that it permits us to obtain accurate stellar distances even for evolving main-sequence and subgiant stars due to the gravity sensitivity of the c_0 index. Also, importantly, theoretical isochrones in the $M_{\text{bol}}, T_{\text{eff}}$ diagram can be transformed to the $M_V, (b-y)_0$ or $c_0, (b-y)_0$ diagrams for the estimation of relative and/or absolute ages of evolving field stars which are near their respective turn-offs, and in several of the previous papers of this series the isochrones of VandenBerg et al. have been used for such purposes, to study the Galactic halo population and to make comparative analyses between the relative ages of the halo and thick-disk stellar populations. Most recently the isochrones of Bergbusch & VandenBerg (2001) have been transformed to the *uvby* photometric system using the color- T_{eff} relations of Clem et al. (2003).

Also, the *uvby- β* photometry can provide basic stellar atmospheric parameters as a prelude to detailed chemical abundance studies making use of high-resolution spectroscopy and model atmospheres. Several empirical calibrations already exist in the literature for the conversion of $(b-y)_0$ or $H\beta$ to T_{eff} ; these calibrations include appropriate metallicity dependences. Index diagrams, such as $c_0, (b-y)_0$, or the reddening-free $[c_1], [m_1]$, or $[c_1], \beta$, allow the classification of field stars according to their evolutionary status, permitting us to estimate the stellar surface gravities, also for input into the model-atmosphere analyses.

In this paper, *uvby- β* photometry is presented for an additional 411 VMP stars from the HK survey, providing a total database of such photometry for 497 VMP stars, when combined with the data of S96. For the present sample the stars have been selected with $[\text{Fe}/\text{H}] \lesssim -1.5$, and 243 were observed in México using classical photometric (photoelectric) techniques and 177 in Chile using DFOSC (CCD) techniques. In Sect. 2 the observing and reduction techniques are described briefly, the catalogues of new *uvby- β* data presented, and the V magnitudes and $(b-y)$ colors from the *uvby* observations compared to magnitudes and $(B-V)$ from the HK survey. In Sect. 3, the photometry is dereddened using a modification of the Schlegel et al. (1998) reddening maps and also the intrinsic-color calibration of Schuster & Nissen (1989); reddenings from the two methods, $E(B-V)$ and $E(b-y)$, are compared. In Sect. 4, $[\text{Fe}/\text{H}]$ values are derived for the VMP stars using the techniques developed in the HK survey, and probable carbon-enhanced stars are identified based on a comparison of the GP and KP indices. Photometric classifications are derived for the VMP stars in Sect. 5 using the $c_0, (b-y)_0$ diagram. Stars are found covering a wide range of stellar types from the horizontal branch (HB) to subluminous stars (SL), and from the red giant stars (RG) to the blue horizontal branch (BHB), and other categories include main-sequence (MS), turn-off (TO), subgiant (SG), blue-straggler (BS), and red-horizontal-branch-asymptotic-giant-branch (RHB-AGB) stars. Possible abundance anomalies for some VMP stars have been identified from the *uvby* photometric indices and diagrams, such as the $[c_1], [m_1]$; for example, ten probable Am stars have been found and also a number of possible AGB stars with unusual chemical abundance ratios or binary companions. Distance estimates are made for the VMP stars in Sect. 6 using *uvby* photometry plus various methods and new calibrations, and also using the *UBV* photometry and techniques developed in the HK survey. Comparisons of these photometric distances show reasonably good agreement, considering the paucity of calibrating stars and extrapolations required for the more VMP stars. In Sect. 7, the VMP field stars are compared to the globular cluster M92 in the $c_0, (b-y)_0$ diagram, using the isochrones of Bergbusch & VandenBerg (2001), as transformed to *uvby* by Clem et al. (2003), to interpolate relative and absolute ages. A number of VMP stars apparently 1–3 Gyrs younger than M92 are noted, and their importance for understanding the formation and evolution of the Galactic halo discussed.

2. Photometric observations of the very metal-poor stars

2.1. Selection of the stars

The VMP stars described herein were selected from two primary sources. The first set of 194 stars is a subset of the published catalogues of Beers, Preston, & Shectman (1985; BPSI) and Beers, Preston, & Shectman (1992; BPSII), using the criterion $[\text{Fe}/\text{H}]_c \leq -1.5$, where $[\text{Fe}/\text{H}]_c$ is the corrected spectroscopic metallicity estimate derived by BPSII based on a calibration of the strength of the CaII K index KP as a function of measured or inferred $(B-V)_0$ color. This set includes, primarily, stars at or near the main-sequence turnoff and warmer subgiants. The second set of 303 stars were *candidate* VMP stars selected from visual inspection of medium-resolution spectroscopy obtained during the course of the HK survey follow-up at a number of observatories, and includes stars covering a larger range of effective temperatures and luminosities. Since this second subset was selected prior to obtaining estimates of metallicity, it includes a larger fraction of stars exceeding $[\text{Fe}/\text{H}] = -1.5$ than the BPSI and BPSII subsample. The full set of HK-survey medium-resolution spectroscopic results will appear in a series of papers in preparation.

2.2. Observation and reduction techniques

The $uvby-\beta$ data presented here for the VMP stars were taken using 1.5 m telescopes and two different types of instrumentation. The data of Table 1 were taken during ten observing runs from September 1995 through November 2000 at the H.L. Johnson 1.5 m telescope at the San Pedro Mártir Observatory, Baja California, México (hereafter SPM), and the $uvby$ data of Table 2 during three runs from October 1998 through September 2000 at the Danish 1.5 m at the European Southern Observatory, La Silla, Chile (hereafter La Silla). For the SPM observing a six-channel $uvby-\beta$ photoelectric photometer was used, the same as for the Schuster & Nissen (1988; hereafter SN) and Schuster et al. (1993; hereafter SPC) catalogues and for the $uvby-\beta$ data of VMP stars by S96. For the La Silla observing the DFOSC has been used with a CCD detector, as described by Brewer & Storm (1999).

The $uvby-\beta$ data presented here for the VMP stars in Table 1 were taken and reduced using techniques very nearly the same as for SN, SPC, and S96. One is referred to these previous papers for more details; what follows is a brief outline of the more important points of the observational techniques. The four-channel $uvby$ section of the SPM photometer is really a spectrograph-photometer which employs exit slots and optical interference filters to define the bandpasses. The grating angle of this spectrograph-photometer was adjusted at the beginning of each observing run to position the spectra on the exit slots to within about $\pm 1\text{\AA}$. Whenever possible, extinction-star observations were made nightly over an air-mass interval of at least 0.8 (see Schuster & Parrao 2001), and spaced throughout each night several “drift” stars were observed symmetrically with respect to the local meridian, and with these observations the atmospheric extinction coefficients and time dependences of the night corrections could be obtained for each of the nights of observation (see Grønbech et al. 1976). Finding charts were employed at the SPM and La Silla telescopes to identify all of the stars from the HK survey. For previous studies, such as S96, the program stars were observed at SPM to at least 50,000 counts in all four channels of $uvby$ and to at least 30,000 counts for the two channels of $H\beta$; here, the fainter program stars at SPM ($V \gtrsim 14^m.5$) were exposed to only at least $\approx 30,000$ counts in all four channels of $uvby$, and $H\beta$ was observed only for the brighter program stars ($V \lesssim 14^m.0$) and to only $\approx 20,000$ counts in both channels at $V \approx 14^m.0$. For all program stars the sky was measured until its contributing error was equal to or less than the error of the stellar count. At SPM an attempt was made to obtain three or more independent $uvby$ observations for each of the program stars.

The $uvby$ observations for the VMP stars of Table 2 were taken using the C1W7 CCD (LORAL/LESSER backside illuminated chip) with 15 micron pixels, and a ESO $uvby$ filter set (Nos. 715, 716, 717, and 718). A more or less clean and uniform part of the chip was selected for the observations, and the Midas routine “point” was used to position the stars near the center of this area; for most nights the RMS positioning error was better than ± 2 pixels, except for the more windy nights when it was $\gtrsim \pm 2$ pixels. Since single stars were being observed, an area of only 250×250 pixels was read out around the center of this “point” routine. In this way the observations could be read out rapidly and the filters cycled more quickly: ybv or $ybvuvby$, with a bias taken after each cycle. Also, by reading 250×250 pixels, four or more sky flats could be obtained in each filter-band during both the evening and morning twilights. By always centering the stars very nearly at the same place on the CCD, we could avoid major cosmetic defects, and also several problems of flat fielding, such as variations in the dispersed light. Whenever possible, atmospheric extinction observations were made nightly over an air-mass interval of at least 0.8. Extra biases were measured at the beginning and (sometimes) end of the nights, and a few 800s (or longer) dark measures were made during the observing runs (800s being the longest stellar integration). In general we attempted to obtain at least 22,000 ADUs in all bands for the program stars, corresponding to about $30,000e^-$, and to obtain at least two independent observations for the program stars; this latter criterion was not accomplished for 86 of the La Silla program stars due mainly to poor photometric conditions during the last observing run.

For the CCD data from La Silla the IRAF package was used for the image reduction. All the images were bias, dark, and flat-field corrected employing the usual routines. The program and standard stars of this study were identified in all the fields and their centroids calculated. For each observed night, the FWHMs of all objects were averaged and from this average three different apertures from 3 to 6 times the $\langle \text{FWHM} \rangle$ were tested. The PHOT routine was then used for extracting the instrumental magnitudes of all objects in the different filters. These instrumental values were then fed into the reduction programs of T. Andersen, described below, and reduced in the usual fashion. That extraction aperture which gave the smallest instrumental and transformation errors was then retained for the reduction of the final program-star standard photometry.

As for the SN, SPC, and S96 catalogues, all of these data reductions were carried out following the precepts of Grønbech et al. (1976) using computer programs kindly loaned by T. Andersen. At SPM the $uvby-\beta$ standard stars observed were taken from the same lists as for the previous catalogues; these are mostly secondary standards from the catalogues of Olsen (1983, 1984). A few of the more metal-poor stars from Olsen and from the SN catalogue (such as HD2796, HD84937, HD140283, HD195363, BD-17:0267, and CD-24:1782) were observed often to be used as standard stars and to check for consistency. At La Silla the standard-star list was derived from stars with $V \lesssim 10^m.5$ from SN, from S96, and from a 1998 version of our Table 1. The reduction programs create a single instrumental photometric system for each observing run, including nightly atmospheric extinctions and night corrections with linear time dependences. Then transformation equations from the instrumental to the standard systems of V , $(b-y)$, m_1 , c_1 , and β are obtained using all standard stars observed during that observing period. The equations for the transformation to the standard $uvby-\beta$ system are the linear ones of Crawford & Barnes (1970) and of Crawford & Mander (1966). Small linear terms in $(b-y)$ are included in the standard transformation equations for m_1 and c_1 to correct for bandwidth effects in the v filter. Our y measures have been transformed onto the V system of Johnson et al. (1966). For the S96 catalogue

we had selected a more homogenous program list of VMP stars with $[\text{Fe}/\text{H}]_c \leq -2.50$ and with the selected stars restricted mainly to the bluer “TO” types (turn-off star candidates) with a few “SG” types (subgiant candidates); a few in fact turned out to be horizontal-branch stars. For the present catalogues all types of stars from the HK survey were thrown into the program-star observing lists while the standard-star lists were extended only slightly to include a few horizontal-branch stars and a few red subgiant/giants. For this reason the transformation equations to the standard system had to be extrapolated for some of the more extreme stars, as seen below in the $c_0, (b-y)_0$ diagram of Fig. 6. The standard photometry of the BHB, SL–BHB, BS, SL, and some of the HB and BS–TO stars results from such an extrapolation. For example, for each of the observing runs at La Silla, approximately 36 *uvby* standard stars were observed in the following ranges: $0^m305 \leq (b-y) \leq 0^m796$, $0^m031 \leq m_1 \leq 0^m576$, and $0^m123 \leq c_1 \leq 0^m726$. These limits can be compared to the range of values displayed in Fig. 6, which has been dereddened.

The *uvby* photometry from SPM is of higher quality than the *uvby* data from La Silla, due in part to differences in the instrumentation and in part due to differing photometric qualities of the nights observed. For the SPM photometer the measures in the four bands are taken simultaneously, and so several instrumental and atmospheric effects cancel out to large degree, such as those due to atmospheric extinction and seeing. The La Silla *uvby* data were observed with the DFOSC, sequentially, and in general the nights observed at La Silla were not of the same high photometric quality as those of SPM. For the SPM *uvby*– β data of Table 1, typical (median) values for the standard deviations of a single observation are $\pm 0^m008$, 0^m007 , 0^m010 , 0^m013 , and 0^m014 for V , $(b-y)$, m_1 , c_1 , and β , respectively. For the La Silla *uvby* data of Table 2, the typical standard deviations of a single observation are $\pm 0^m009$, 0^m015 , 0^m021 , and 0^m023 for V , $(b-y)$, m_1 , and c_1 , respectively.

2.3. The catalogues of observations

Table 1 presents the *uvby*– β catalogue for the 243 VMP stars observed at SPM; 156 of these stars have measured $H\beta$ values, mostly those with $V \leq 14^m0$. Column 1 lists the stellar identifications according to the nomenclature of BPSI and BPSII, Col. 2 the V magnitude on the standard Johnson *UBV* system, and Cols. 3–5, and 7, the indices $(b-y)$, m_1 , c_1 , and β , respectively, on the standard systems of Olsen (1983, 1984), which are essentially the systems of Crawford & Barnes (1970) and Crawford & Mander (1966) but with a careful extension to metal-poor stars and with north-south systematic differences corrected. Columns 6 and 8 give N_u and N_β , the total numbers of independent *uvby* and β observations, respectively. Stars marked with a “++” in the “Notes” column are red subgiant/giants, $((b-y) \gtrsim 0^m5$ and $c_1 \gtrsim 0^m35$); as discussed in SN, the m_1 and c_1 values of these stars may be less accurate.

Column 9 of Table 1 lists notes for the VMP stars taken during the observations or during the data reductions and analyses. For example, 15621–051 shows indications of photometric variability in its *uvby*– β data, below is classified as a horizontal branch (“HB”) star, and so may very well be a VMP RR-Lyrae-type star. The star 16033–081 is one of the red subgiant/giant stars mentioned above. The photometry of 16549–043 was contaminated by a faint nearby star which was also included in the photometer’s diaphragm during the observations. The VMP star 17583–067 was offset in the photometer’s diaphragm to exclude a fainter nearby star; since the bandpasses of the SPM photometer are mainly filter-defined, this small offset should produce negligible errors for the indices. The star 22955–032 was observed in two different ways: for two nights with poorer seeing, with a fainter nearby star also in the photometer’s diaphragm, and for one night with good seeing, offset with this nearby star excluded; the photometric values with $N_u = 3$ include all three measures, those with $N_u = 2$ only the observations with the fainter star included, and $N_u = 1$ with this fainter star excluded.

For those stars noted as photometric variables (“V”), all eight, 15621–051, 16089–086, 16541–052, 16557–063, 17136–014, 17435–003, 22872–010, and 30320–075, are classified as “HB”, horizontal-branch, in the photometric classifications to follow, and these are all good candidates for VMP RR-Lyrae-type stars. Of the six stars marked as possible photometric variables (“V?”), two more are classified below as “HB” (16089–042 and 17570–011), one as “BS–TO” (17581–075), one as “SG” (subgiant; 17581–113), one as “TO” (turn-off star; 22889–050), and one as “RG” (red giant; 30325–028).

Table 2 shows the 177 VMP stars observed at La Silla with the DFOSC, *uvby* photometry only. Columns 1–6 are the same as in Table 1. Column 7 provides a few notes concerning the possible photometric variability (“V?”) of these VMP stars; below, three of these possible variables are classified “HB” (22881–039, 30339–046, and 31061–057) and so are candidates for VMP RR-Lyrae-type stars. Two others are classified “RHB–AGB” (22952–015 and 31083–069) and may be AGB semiregular or irregular variable stars, and one as “RG” (22873–166).

2.4. Comparisons with the HK-survey photometry

For many of the stars in Tables 1 and 2, *UBV* photometry has been obtained as part of the HK survey of Beers and colleagues (see the references and Table 3 in the following section). In order to check the quality of their data and also of our *uvby*– β photometry, Fig. 1 shows the agreement between the two sets of V magnitudes, and Fig. 2 the relation between the observed $(B-V)$ and our observed $(b-y)$. Figure 1 shows the difference $V(\text{HK Survey}) - V(\text{uvby})$ as a function of $V(\text{uvby})$ for the 419 stars in Tables 1 and 2 and in S96 for which *UBV* photometry has been obtained. In this figure the CH stars indicated below in Col. 12 of Table 3 are graphed as filled circles; all others as open circles. The overall distribution of points around the 0^m00 line looks very satisfactory

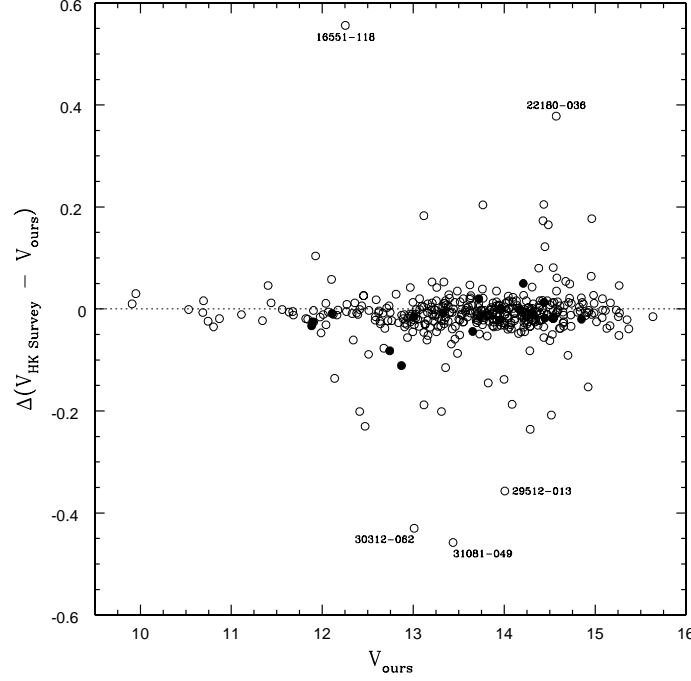


Fig. 1. Comparison of the V magnitudes: the difference between the V magnitudes of the HK survey minus those of the present publication are plotted as a function of the present V values. The dotted line shows the zero-difference level, and five of the more extreme outliers are marked with their identification numbers; these are discussed in the text. Stars identified as CH stars in the HK survey (Col. 12 of Table 3) are plotted as filled circles; all others as open circles.

except for a few outliers. Five of the more extreme outliers have been marked with their names, and these all have differences in the observed V magnitudes greater than 0^m35 . Of these, 29512-013 and 30312-062 are from S96, both are classified below as “HB”, and in S96, 29512-013 has been noted as “variable”; probably both of these are variable VMP RR-Lyrae-type stars. As discussed below, 16551-118 and 22180-036 may be binaries or variable AGB stars with anomalous abundances; both have m_1 values much too large to correspond to their $[\text{Fe}/\text{H}]_{\text{F}}$ values of Table 7. The star 31081-049 was observed at La Silla, has been classified as “RG”, and is one of the reddest stars observed in this project.

Figure 2 shows the observed $(B-V)$ from the HK survey versus $(b-y)$ from our observations, for the 419 VMP stars which have been measured with the two systems. Again the CH stars indicated in Table 3 have been plotted as filled circles, and all others as open circles. The five outliers of the previous figure have again been labeled. The dotted line has a slope of 1.47, which is the approximate ratio between the observed $(B-V)$ and $(b-y)$ colors expected for metal-free stars, as suggested by the theoretical calculations of Budding (1993), and it can be seen that these data do follow well this slope, as confirmed below in Fig. 4 and Eq. 1. Several of the CH stars are seen as outliers above this dotted line; this is not surprising since enhanced CN and CH absorptions decrease the flux in the B band but do not affect V , b , and y . Once again, 16551-118, 22180-036, 29512-013, and 30312-062 are seen as outliers, probably due to the reasons mentioned elsewhere: photometric variability, anomalous chemical abundances, and/or a binary companion.

There are 77 HK survey stars in common between our (new) measurements of Strömgren photometry from SPM and La Silla with the previously published work of Anthony-Twarog et al. (2000; AT). The measurements of AT are not expected to be as accurate as those reported in our present work, in part due to the fact that their data was obtained with the CCDPHOT CCD-based detector system, which is known not to provide an ideal match to the Strömgren system, and often they only had single observations of each target. Nevertheless, the agreement between the two sets of data is quite respectable:

$$\begin{aligned}
 < V_{\text{AT}} - V_{\text{P}} > = -0^m019; \quad \sigma(V_{\text{AT}} - V_{\text{P}}) = 0^m057 \\
 < (b-y)_{\text{AT}} - (b-y)_{\text{P}} > = +0^m009; \quad \sigma((b-y)_{\text{AT}} - (b-y)_{\text{P}}) = 0^m032 \\
 < m_{1,\text{AT}} - m_{1,\text{P}} > = -0^m011; \quad \sigma(m_{1,\text{AT}} - m_{1,\text{P}}) = 0^m040 \\
 < c_{1,\text{AT}} - c_{1,\text{P}} > = +0^m010; \quad \sigma(c_{1,\text{AT}} - c_{1,\text{P}}) = 0^m084
 \end{aligned}$$

where the subscript P represents the present data, not discriminating whether it came from SPM or La Silla. If one uses robust and resistant estimates of the central location and scale of the differences between the measurements, e.g., as described by Beers, Flynn & Gebhardt (1990), the comparison is even more favorable:

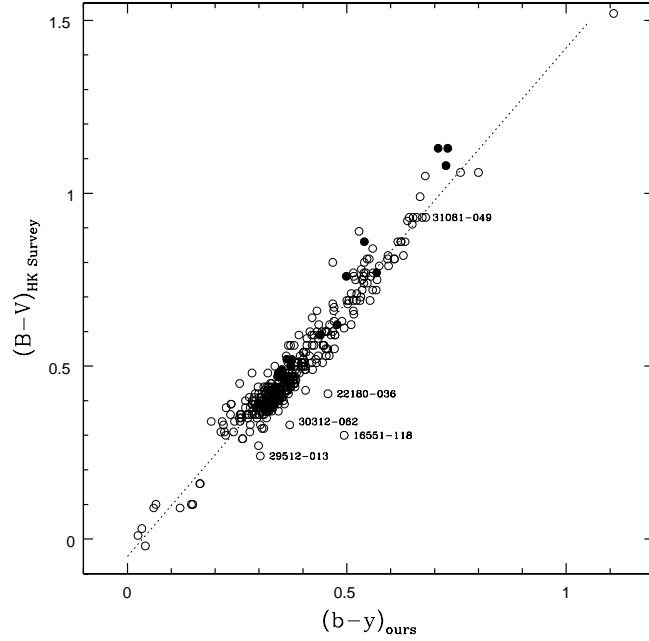


Fig. 2. The $(B-V)$ colors observed for the HK survey are graphed against the $(b-y)$ colors of the present publication. The dotted line has a slope of 1.47, as suggested by Budding (1993) for metal-free stars. As in Fig. 1, the same five extreme outliers are labeled with their identification numbers, and the CH stars are plotted as filled circles.

$$\begin{aligned}
 C(V_{\text{AT}} - V_{\text{P}}) &= -0^{\text{m}}015; & S(V_{\text{AT}} - V_{\text{P}}) &= 0^{\text{m}}024 \\
 C((b-y)_{\text{AT}} - (b-y)_{\text{P}}) &= +0^{\text{m}}008; & S((b-y)_{\text{AT}} - (b-y)_{\text{P}}) &= 0^{\text{m}}026 \\
 C(m_{1,\text{AT}} - m_{1,\text{P}}) &= -0^{\text{m}}009; & S(m_{1,\text{AT}} - m_{1,\text{P}}) &= 0^{\text{m}}036 \\
 C(c_{1,\text{AT}} - c_{1,\text{P}}) &= +0^{\text{m}}002; & S(c_{1,\text{AT}} - c_{1,\text{P}}) &= 0^{\text{m}}051
 \end{aligned}$$

Both the offsets in the mean values and the estimated rms variations are consistent with expectations, considering the reported errors in both samples.

3. Reddening and estimation of broadband colors

Table 3 lists the positions of our program stars, both equatorial and Galactic, along with broadband V and $B-V$ photometry, where available. The sources for this photometry include Doinidis & Beers (1990), Doinidis & Beers (1991), Preston, Shtetman, & Beers (1991), Bonifacio, Monai, & Beers (2000), and Beers et al. (2003, in preparation). In many cases, several sources have been averaged. The typical accuracy of this photometry is on the order of $\sigma(V)$ and $\sigma(B-V) \approx 0^{\text{m}}01$ – $0^{\text{m}}02$. The stars in this and the following tables include those VMP stars from Tables 1 and 2 above, plus the VMP stars from S96. In Table 4 are shown cross-identifications for a number of the VMP stars; these are stars identified as VMP in more than one of the overlapping fields from the HK survey.

Also listed in Col. 8 of Table 3 are the reddenings in the stellar directions obtained by interpolation in the maps of Schlegel, Finkbeiner, & Davis (1998), which have superior spatial resolution and are thought to have a better-determined zero point than the Burstein & Heiles (1982) maps. However, Arce & Goodman (1999) caution that the Schlegel et al. map may overestimate the reddening values when the color excess $E(B-V)_{\text{S}}$ exceeds about $0^{\text{m}}15$. Our own independent tests suggest that this problem may extend to even lower color excesses, on the order of $E(B-V)_{\text{S}} = 0^{\text{m}}10$. Hence, we have adopted a slight revision of the Schlegel et al. reddening estimates, according to the following:

$$\begin{aligned}
 E(B-V)_{\text{A}} &= E(B-V)_{\text{S}} & E(B-V)_{\text{S}} &\leq 0^{\text{m}}10 \\
 E(B-V)_{\text{A}} &= 0^{\text{m}}10 + 0.65 \times [E(B-V)_{\text{S}} - 0^{\text{m}}10] & E(B-V)_{\text{S}} &> 0^{\text{m}}10
 \end{aligned} \tag{1}$$

where $E(B-V)_{\text{A}}$ indicates the adopted reddening estimate. We note that for $E(B-V)_{\text{S}} \geq 0^{\text{m}}15$ this approximately reproduces the 30%–50% reddening reduction recommended by Arce & Goodman. The final adopted reddening, denoted as $E(B-V)_{\text{A}}$, is given in Col. 9 of Table 3. Column 10 lists the dereddened color $(B-V)_0$, for the stars where this information is available.

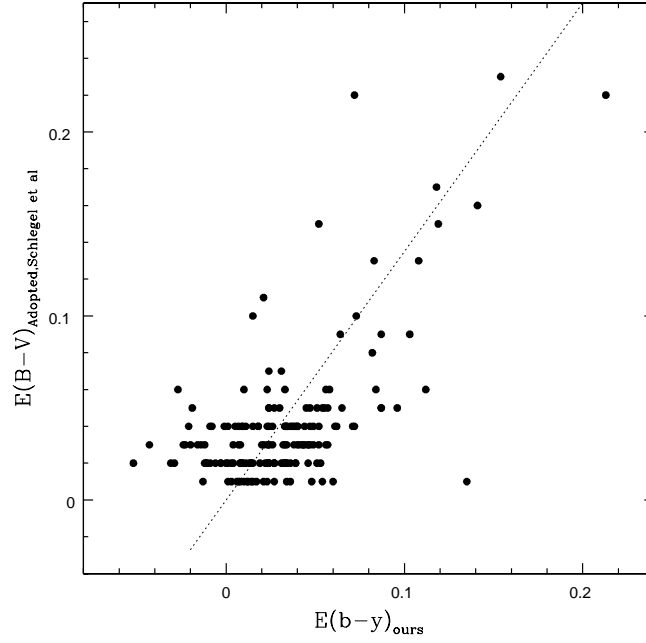


Fig. 3. Comparison of the $E(B-V)_A$ reddenings, as discussed above, with the $E(b-y)$ values from the intrinsic-color calibration of Schuster & Nissen (1989). The dashed line has a slope of 1.35 (Crawford 1975a).

These stars can also be dereddened using the intrinsic-color calibration of Schuster & Nissen (1989) when a value has been observed for $H\beta$, as for most of the brighter VMP stars. This calibration, plus a small offset correction as noted by Nissen (1994), has been used to estimate interstellar reddenings for 177 of the VMP stars being studied here. In Fig. 3 a comparison of $E(B-V)_A$ with $E(b-y)$ for these 177 stars has been plotted. The dotted line shows the expected relation of $E(B-V) = 1.35E(b-y)$ (Crawford 1975a), and indicates generally good agreement between the two dereddening methods, with no obvious systematic differences. Table 5 lists the dereddened $uvby$ photometric values for all of our program stars: Col. 1 the stellar identification number, Cols. 2–5 the values for V_0 , $(b-y)_0$, m_0 , and c_0 , respectively, Cols. 6–7 the values of $E(b-y)$, from the intrinsic-color calibration when available, and $E(B-V)_A$, as discussed above, respectively, and in Col. 8 the photometric classification to be discussed below. Stars which appear on more than one line have an asterisk following these classifications: nine stars were observed at both SPM and La Silla, and, as mentioned above, 22955–032 was observed in two ways. The dereddened photometry has been obtained by applying preferentially the $E(b-y)$ values from the intrinsic-color calibration of Schuster & Nissen (1989), when $H\beta$ is available, or, if not, from $E(b-y) = E(B-V)_A/1.35$. Reddening corrections have been applied to the $uvby$ photometry only when $E(b-y) \geq 0^m015$; values smaller than this are mostly not real but due to the photometric observational errors (see Nissen 1994). For the other reddening corrections, these relations have been used: $A_V = 4.3E(b-y)$, $E(m_1) = -0.3E(b-y)$, and $E(c_1) = +0.2E(b-y)$ (Strömgren 1966; Crawford 1975a).

Strömgren $(b-y)_0$ values are available for all of our target stars, and hence it is desirable to make use of this information to assist in the determination of the metallicity estimates. Since the calibration of Beers et al. (1999) is employed, an estimated $(B-V)_0$ color is first required. Figure 4 shows a comparison of the dereddened broad- and intermediate-band photometry for the stars where both pieces of information are available. The filled circles indicate stars which are likely outliers, as seen in Figs. 1 and 4, with differences of more than 0^m10 or 0^m15 , respectively, or were noted to have rather strong CH G-band indices, suggesting that they are carbon-enhanced (the CH stars). The regression line, obtained using the stars which are not rejected for these reasons, is:

$$(B - V)_0 = 1.464(\pm 0.022) (b - y)_0 - 0^m060(\pm 0^m008)$$

This slope is in very good agreement with that predicted theoretically by Budding (1993) for metal-free stars, 1.47. The expected errors in predictions of broadband color from application of this line are on the order of 0^m05 . This relation is used to obtain an estimate for the $(B-V)_0$ color, designated BV_0 and listed in Col. 11 of Table 3. The final two columns of Table 3 indicate whether the star is noted as a carbon-enhanced star, or a photometric outlier as defined above, respectively.

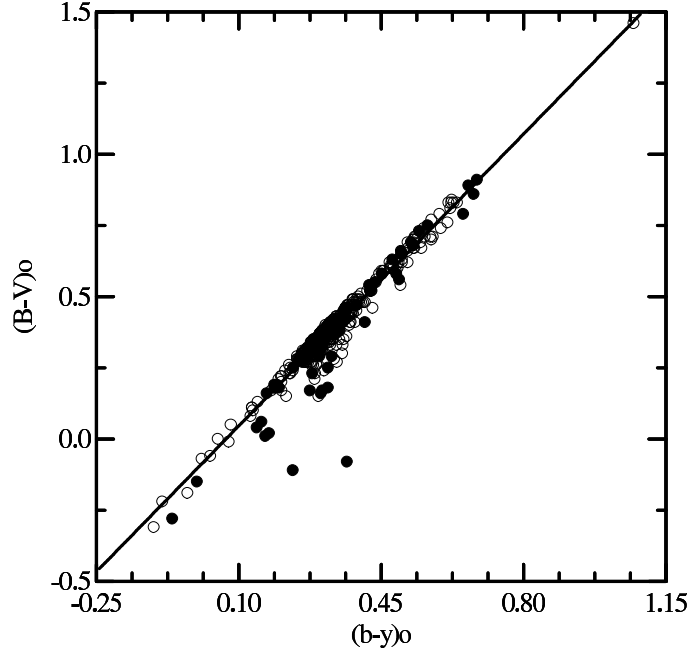


Fig. 4. The $(B-V)_0$ colors are plotted against the $(b-y)_0$ colors. The diagonal solid line has a slope of 1.464. Probable outliers and the CH stars are plotted as filled circles.

4. Stellar abundances

4.1. Line indices

Key line-strength indices for each of our stars have been measured using the techniques, and bands, described in Beers et al. (1999). These indices are listed in Table 6. KP is the index that measures the strength of the CaII K line, which serves as our primary metallicity indicator. HP2 and HG2 are indices measuring the strengths of the Balmer lines H δ and H γ , respectively. GP is an index that measures the strength of the CH G-band.

4.2. Estimation of $[Fe/H]$ values

The stellar metallicities for our program objects are estimated with several approaches. First, the estimated broadband color, BV_0 (in distinction to a measured $(B-V)_0$) is used along with the CaII K line index, KP, to obtain estimated metallicities for stars in the color range $0^m3 \leq BV_0 \leq 1^m2$, based on the calibration of Beers et al. (1999). This approach, a multiple regression over the calibration space, has been demonstrated to provide metallicities which are precise to about ± 0.2 dex. These values are listed as $[Fe/H]_{K1}$ in Col. 2 of Table 7.

As an alternative, abundance estimates have also been made based on an Artificial Neural Network (ANN), using as inputs BV_0 and the base-ten logarithm of the CaII K-line index, $\log(KP)$. This network was trained using the same set of calibration stars as in Beers (1999), so it is not entirely independent of the first method, but it does provide some information on errors that might arise from the regression approach. The training process indicated that the expected errors of prediction for metallicities derived from this method should be on the order of 0.20–0.25 dex. This estimate is listed as $[Fe/H]_{A1}$ in Col. 3 of Table 7.

Similar estimates of abundances for program stars with available (*measured*) broadband $(B-V)_0$ colors in the range $0^m3 \leq (B-V)_0 \leq 1^m2$ are also obtained. The first approach, based on the Beers et al. (1999) calibration, and using $(B-V)_0$ and KP as inputs, yields the metallicity estimates designated as $[Fe/H]_{K2}$ in Col. 4 of Table 7. The ANN estimate, based on $\log(KP)$ and $(B-V)_0$ is designated as $[Fe/H]_{A2}$ in Col. 5 of Table 7.

Inspection of Table 7 shows that the four estimates of metallicity are often, though not always, in rather good agreement with one another. The most discrepant cases arise for stars where the estimated BV_0 and measured $(B-V)_0$ colors disagree. Final estimates of metallicity are assigned, in general, based on a straight average of the individual abundances, and are designated as $[Fe/H]_F$ in Col. 6 of Table 7. In a few cases, preference was given to one or more of the individual estimates; this in particular applies to the cooler, more metal-rich stars. The Beers et al. (1999) procedure applies an explicit correction for saturation effects in the KP index, which the ANN procedure does not.

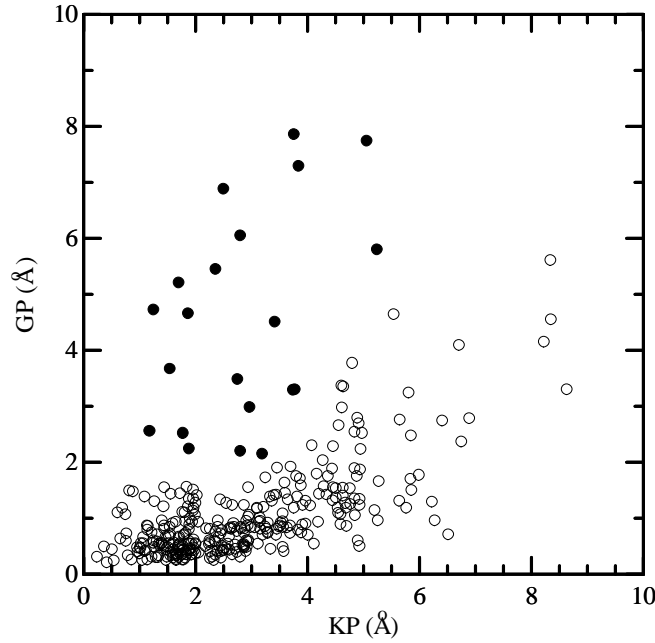


Fig. 5. Comparison of the GP index with the KP. Probable CH stars are plotted as filled circles.

4.3. Carbon-enhanced stars

There are a number of stars in our sample that clearly exhibit enhanced carbon abundances, as demonstrated from the strengths of their CH G-band indices, GP. Such stars have been noted in a number of recent studies (e.g., Norris, Ryan, & Beers 1997; Zacs, Nissen, & Schuster 1998; Rossi, Beers, & Sneden 1999) to occur with a larger frequency amongst stars of very low metallicity, as compared to stars of intermediate and solar abundance. These stars also provide important probes of early stellar evolution at low metallicity (e.g., Fujimoto, Ikeda, & Iben 2000; Schlattl et al. 2002), as well as operation of the s-process in the early Galaxy (e.g., Aoki et al. 2002a; Aoki et al. 2002c). In Figure 5, the GP index is plotted versus the KP index for our program stars. The stars that clearly stand out from the rest of the sample are marked with filled circles, and are likely carbon-enhanced stars (these stars are also noted in Table 3). Note that a number of these stars have already had detailed studies of their abundances, and in some cases, orbital properties, in the published literature.

4.4. Other possible abundance anomalies

In Table 5 are seen a number of stars with $(b-y)_0 \lesssim 0^m45$ and with $m_0 \gtrsim 0^m17$, much larger than would be expected for VMP stars with $[\text{Fe}/\text{H}] \lesssim -1.5$. (For example, see Fig. 4 from Schuster & Nissen 1989). Examples of such stars are 16548–009, 16551–118, 16552–086, 17572–057, 17586–014, 22176–018, 22180–036, 31081–003, and 31083–069. Most of these stars (except 16548–009 and 17572–057) are also noted as outliers in Table 3 with differences greater than 0^m10 and/or 0^m15 in Figs. 1 and 4, respectively; 16551–118 and 22180–036 are also two of the more extreme outliers labeled in Figs. 1 and 2. These stars may be lower-temperature analogues to the eight stars plotted in Fig. 5 and discussed in Sect. 3.1 of S96, those with larger than expected $[m_1]$ values, explained as having “... some anomaly, such as an unusual chemical abundance ratio or a binary companion.” Also in S96 it was noted that BPSII had identified four of these previous stars as having “... unusually strong G bands and CN features,” but in Table 3 none of the above mentioned stars have been identified as CH stars. All of the present cases (except 31083–069, which has been classified RHB–AGB) have been classified subgiants (SG) in Fig. 6, and also several have the added dimension of probable photometric variability (such as 16551–118 and 22180–036). In the $c_0, (b-y)_0$ classification diagram of Fig. 6 the SGs and RHB–AGBs span nearly the same range in $(b-y)_0$, and it has been noted in the literature that the AGB stars sometimes exhibit photometric variability, being Mira, semiregular-, or irregular-type variables (Gautschi & Hideyuki 1996) and frequently anomalous chemical abundances (Busso et al. 1999). It is suggested here that many of these above-mentioned SG stars may in fact be mis-classified (variable) AGB stars with unusual chemical abundance ratios. It is known, for example, that nitrogen variations can shift the c_0 index via the effect of the NH band at 3360\AA , and the most convincing demonstration of this has been given by Grundahl et al. (2002), who studied red giants in NGC6752. In addition, other abundances may also affect the c_0 index. For example, Zacs et al. (1998) discuss the probable effects of CH upon the v -band of Strömgren photometry, and Grundahl et al. (2000b) have shown that scatter in c_1 is seen in globular clusters down to at least the base of the red-giant branch and that this scatter is correlated with the CN strength.

Another group of stars which stand out quite clearly using the *uvby* photometry together with the indices of the HK survey are those 10 stars of Table 5 with the classification “BS (Am)”. These are discussed in more detail below in Sect. 5.2. These are stars which appear to have an underabundance of Ca which does not correspond to the abundance of Fe. For example, Wilhelm et al. (1999a, 1999b) work with two Ca II K-line estimators to derive $[\text{Fe}/\text{H}]$, and also two metallic-line regions which include Fe and Mg lines. For the Am stars these different indicators can give widely different $[\text{Fe}/\text{H}]$ values, such as for example the stars 22871-0111, 22956-0055, and 30321-0076 from Table 2A of Wilhelm et al. (1999b), which have $[\text{Fe}/\text{H}] \lesssim -2.0$ from the K-line estimators and $[\text{Fe}/\text{H}] \approx 0.00$ from the metallic-line regions. The “BS (Am)” stars of this paper show exactly these characteristics, as discussed below.

5. Photometric Classifications

5.1. The $c_0, (b-y)_0$ diagram

In S96 the $[c_1], [m_1]$; $c_0, (b-y)_0$; and $[c_1], \beta$ diagrams were used to derive and analyze the photometric classifications of the VMP stars. However, for the present work fewer stars have $H\beta$ values, making $[c_1], \beta$ less useful. Also, here the range in metallicities is wider than for S96, making the classifications from the $[c_1], [m_1]$ diagram more difficult and less definitive; $[m_1]$ is sensitive to both metallicity and temperature and so is less adequate as the second classification parameter. So, for the present work the photometric classifications have been obtained using mainly the $c_0, (b-y)_0$ diagram with the $[c_1], [m_1]$ diagram used only for some checking. All of the present VMP stars have been observed in c_1 and $(b-y)$, all have been dereddened using the methods discussed above, and the metallicity effects upon c_0 and $(b-y)_0$ are small, especially for the A- and F-type stars.

Our photometric classification scheme for the VMP stars is based mainly upon three sources: the separation of candidate VMP subgiant stars by Pilachowski et al. (1993, Fig. 1), the study of halo red giant, AGB, and horizontal-branch stars by Anthony-Twarog & Twarog (1994, Fig. 9), and a large amount of *uvby* photometry for globular clusters (hereafter GCs) provided by Frank Grundahl (2000). The final classification diagram is shown in Fig. 6. The first iteration of this diagram was derived using the first two sources mentioned above, Pilachowski et al. (1993), and Anthony-Twarog & Twarog (1994), and then several refinements and extensions were provided by the *uvby* data from Grundahl (2000). For example, the dividing line between the turnoff (TO) and subgiant (SG) stars was first taken from Pilachowski et al. but then modified slightly using the *uvby* data from Grundahl for the GC M92. The data for M92 was also used to refine and extend the classification area for the red-horizontal-branch-asymptotic-giant-branch (RHB-AGB) stars and for the blue horizontal branch (BHB). Data for M2 and NGC1851 were used to better define the area of the horizontal branch (HB), and NGC6752, M79, and M13 for the subluminoous-blue-horizontal-branch (SL-BHB). The other classification categories are: main sequence (MS), blue straggler (BS), red giant (RG), and subluminoous (SL).

Photometric classifications for the VMP stars, derived from this Fig. 6, are given in the last column of Table 5 along with the c_0 and $(b-y)_0$ values used, Cols. 5 and 3, respectively. These classifications are also repeated in Table 9. Following these classifications, in parentheses, are given indications of abundance anomalies, such as “Am” from Sects. 4.4 and 5.2, the “CH” stars of Sect. 4.3 and Table 3, and the “CNO” and “CN” stars, 22949–037 and 29498–043, respectively, from Sect. 6.2. One should expect that the classifications and distances of these anomalous stars are less reliable. In Table 5 excellent agreement is seen for stars observed at both SPM and La Silla, those with asterisks at the end (except 22955–032); the photometric classifications are identical in all nine cases. We emphasize that these classifications are photometric and correspond most closely to those classifications of metal-poor stars from the color-magnitude diagrams of GCs, rather than to any spectroscopic classification.

The star 22955–032 provides a good example of the possible classification errors produced by the photometric contamination of a nearby star. As mentioned above, this star was observed in two ways, with a nearby, fainter, apparently redder, star both included and excluded from the photometer’s diaphragm. From the one less-contaminated observation 22955–032 is classified as TO, for the two contaminated observations as MS, and for the combined, three observations as SG.

5.2. The $[c_1], [m_1]$ diagram

The $[c_1], [m_1]$ diagram has also been plotted (not shown) for all of the VMP stars from Tables 1 and 2, plus those from S96, where $[c_1] = c_1 - 0.20(b-y)$ and $[m_1] = m_1 + 0.30(b-y)$ are reddening-free indices according to the work of Strömgren (1966) and of Crawford (1975a). Due to the sensitivity of $[m_1]$ to metallicity and due to the considerable range in our sample from $[\text{Fe}/\text{H}] \approx -0.9$ to ≈ -3.8 , this diagram is not easily used to classify the VMP stars, but many of the features of Fig. 6 can be traced, such as the turnoff, subgiant, blue straggler, horizontal-branch, and subluminoous stars.

What does stand out in this figure is a compact group of ten stars with $\langle [c_1] \rangle = 0^m650 \pm 0^m021$ and $\langle [m_1] \rangle = 0^m286 \pm 0^m011$ falling to the red in $[m_1]$ of the horizontal-branch and blue-straggler stars. The compactness and separation of this group is obvious, and the shift to more positive $[m_1]$ values would indicate higher metallicities. In Fig. 6 these ten have all been classified as blue stragglers (BS), and in Table 8 their photometric and physical properties are summarized, taken mostly from the above tables. These stars have interstellar reddenings from 0^m03 to 0^m39 , Galactic longitudes from 68.8° to 244.0° , latitudes from -28.1° to $+39.1^\circ$, and $(B-V)_0$ values which place them near the blue limit of the HK survey. All are indicated as outliers in Table 3 mostly

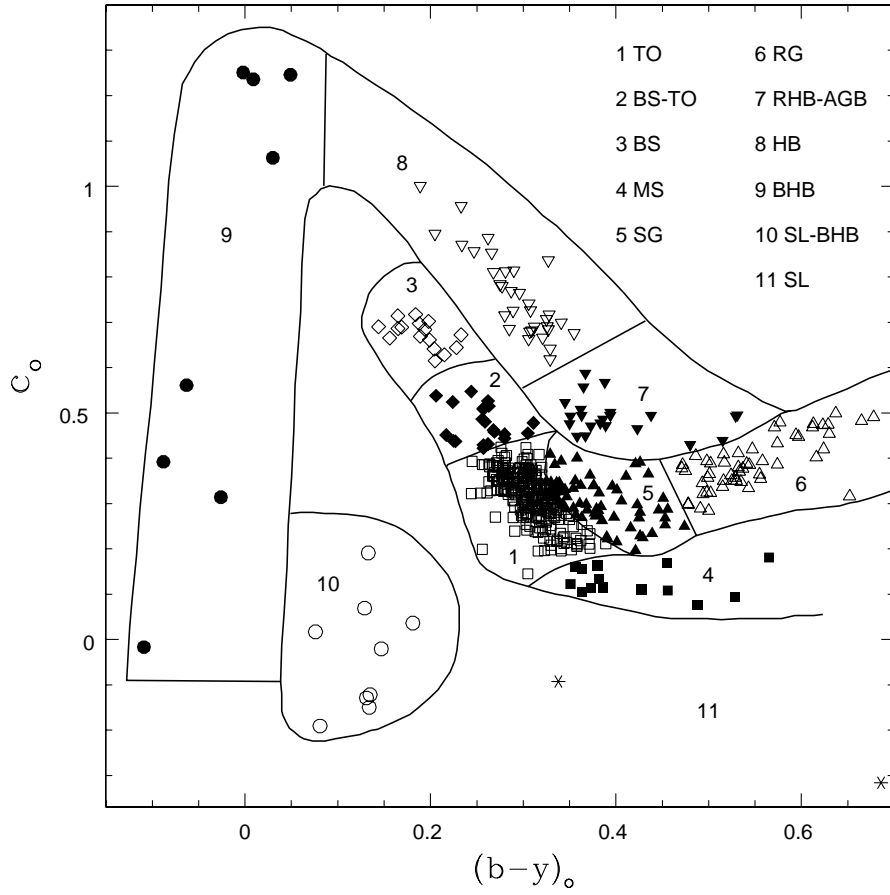


Fig. 6. The $c_0, (b-y)_0$ diagram for the VMP stars of this paper with the classification areas indicated. Area 1 corresponds to turnoff stars (TO); area 2, the blue-straggler–turnoff transition (BS–TO); area 3, blue stragglers (BS); area 4, the main sequence (MS); area 5, subgiant stars (SG); area 6, red giants (RG); area 7, the red-horizontal-branch–asymptotic-giant-branch transition (RHB–AGB); area 8, the horizontal branch (HB); area 9, the blue horizontal branch (BHB); area 10, the subluminous–blue-horizontal-branch transition (SL–BHB); and area 11, the subluminous (SL) stars. These are photometric classifications corresponding most closely to the stellar categories from GC color-magnitude diagrams.

due to their anomalous positions in Fig. 4. Four of the stars, which have had their metallicities measured, have $[\text{Fe}/\text{H}]_{\text{F}} \approx -2.0$, but the m_1 , $[m_1]$, and $(U - B)_0$ values of these ten objects would all indicate much higher, nearly solar, metallicities. The other six do not have $[\text{Fe}/\text{H}]_{\text{F}}$ values, being bluer than $0^{\text{m}}30$ in BV_0 and $(B - V)_0$, when available.

These ten stars fit the definition of an “Am” star, as mentioned above in Sect. 4.4, and as developed in Wilhelm et al. (1999a, 1999b). The KP index of these stars would indicate low metallicities, $[\text{Fe}/\text{H}] \lesssim -1.50$, while other metal-sensitive indices from the *uvby* and *UBV* photometries would indicate nearly solar values. In Table 5 a note “(Am)” has been attached to the “BS” classification of these stars.

6. Distance Estimates

6.1. Distances from *UBV* photometry

In order to obtain photometric estimates of the stellar distances, the photometric classifications, based on the Strömgren indices listed in Table 5, have first been adopted. As noted in Sect. 5.1, those stars with indications of abundance anomalies have less reliable classifications and consequently less reliable photometric distances. The *UBV*-based distances have been derived only from *measured* broadband *V* and *B - V* photometry, where it exists. The broadband de-reddened colors, $(B - V)_0$, and the final averaged metallicities, $[\text{Fe}/\text{H}]_{\text{F}}$, where available, are then used to enter the procedures for obtaining estimates of the absolute magnitudes, M_V . For stars classified as BHB, the relationship between absolute magnitude and metallicity adopted by Clementini et al. (1995) has been used:

$$M_V(\text{BHB}) = 0^{\text{m}}68 + 0.19 ([\text{Fe}/\text{H}] + 1.5).$$

For stars with other classifications, a discrepancy has been noted between the absolute magnitudes obtained from the Revised Yale Isochrones employed by Beers et al. (1999) and those obtained based on calibrations of the Strömgren photometry (described below). This discrepancy was most severe for the stars classified as RG and AGB, in the sense that these stars were assigned absolute magnitudes that were too bright. Hence, we decided to adopt the absolute magnitudes as assigned by Beers et al. (2000; their Table 2), based on empirical calibrations of globular and open clusters, for the stars classified as MS, TO, SG, RG, and AGB. The adopted absolute magnitudes, and corresponding distance estimates are listed in Table 9. For the TO stars, absolute magnitudes and distances have been listed under the assumptions that the stars are either main-sequence dwarfs or subgiants, and these absolute magnitudes and distances derived under these assumptions are listed in Table 9 as M_{V1} , D_1 , and M_{V2} , D_2 , respectively. The great majority of the TO stars are expected to be dwarfs, and hence the primary estimates for these stars are M_{V1} and D_1 . For stars other than TO, the estimated absolute magnitudes and distances are listed in the columns labeled M_V and D_1 , respectively.

6.2. Distances from $uvby$ - β photometry

Stellar distances have also been obtained from the $uvby$ photometry using a variety of methods and calibration procedures, depending on the photometric classifications given above. These $uvby$ distances are given in the last column of Table 9. For example, for the TO, MS, and most SG and BS-TO stars the M_V and photometric distances are derived from an empirical calibration based upon Hipparcos data (ESA 1997). This calibration will be documented in greater detail elsewhere; here its characteristics are outlined briefly. The calibration equation is based upon 512 stars from the Hipparcos data base with parallax errors of 10% or less. The Lutz-Kelker corrections to M_V for these stars are less than about 0^m12 . This sample has been cleaned of binaries using other data bases and also by an iterative procedure whereby stars with residuals $\geq 0^m7$ in the calibration comparison have been removed. The calibration equation is a polynomial in $(b-y)$, c_0 , and m_0 and higher-order terms to fourth order. As for the calibrations of Schuster & Nissen (1989), the solution has been iterated until all terms have T-ratios with absolute values greater than 3. That is, all coefficients are at least three times their estimated errors according to the IDL REGRESS routine (the returned errors of the coefficients are standard deviations), and with ~ 500 degrees of freedom, all coefficients are non-zero at a significant level, greater than 0.995. The 512 calibration stars have the following photometric ranges: $0^m038 \leq m_0 \leq 0^m593$, $0^m279 \leq (b-y) \leq 0^m600$, $0^m102 \leq c_0 \leq 0^m474$, and $0^m991 \leq M_V \leq 8^m029$. (The actual region in the M_V , $(b-y)$ diagram over which this calibration is well-defined is a somewhat irregular polygon, and not a rectangle.) As mentioned in S96, for the VMP stars many of the photometric calibrations are not entirely adequate since few good calibration stars with $[\text{Fe}/\text{H}] < -2.0$ exist. This caveat also applies here, but this Hipparcos-based photometric calibration seems to work quite well for our VMP stars as suggested in Figs. 7 and 8.

In Fig. 7 are plotted M_V values calculated using this Hipparcos-based, empirical calibration against M_V derived directly from the Hipparcos parallaxes for nine of our calibration stars, those with the lowest metallicities, $[\text{Fe}/\text{H}] < -1.50$, according to the photometric $[\text{Fe}/\text{H}]$ calibration of Schuster & Nissen (1989). These nine stars have $[\text{Fe}/\text{H}]$ values in the range $-2.39 \leq [\text{Fe}/\text{H}] \leq -1.57$. The agreement seen in Fig. 7 is quite satisfactory, but as in the above caveat, these calibration stars do not extend to the lowest $[\text{Fe}/\text{H}]$ values of many of the VMP stars. In Fig. 8 the distances (D_1) and M_{V1} values from the HK survey, derived as described above using UBV photometry, are compared to our distances and M_V values from our Hipparcos-based calibration. The comparison is shown for distances out to 2 kpc only, where our Hipparcos calibration dominates, and only TO, MS, SG and BS-TO stars have been plotted. Again the agreement seems quite good, with no indications for systematic problems with our Hipparcos-based, empirical calibration for M_V . In the upper panel of Fig. 8 the mean locus of the TO stars is seen to be nearly horizontal and tilted with respect to the one-to-one dashed line. This is to be expected, since the M_{V1} values have been derived assuming that the VMP TO stars are all main-sequence dwarf stars while the Hipparcos-based calibration for $uvby$ photometry takes into account the evolution of these TO stars up to the subgiant branch.

Our Hipparcos-based calibration can be applied over the ranges in $uvby$ photometry and M_V mentioned above. Outside these ranges other methods and calibrations have been used. For the RGs and a few of the brighter SGs, the stars have been fit to the color-magnitude diagram of M92, $(M_V)_0$ versus $(b-y)_0$, from Grundahl et al. (2000a) using their distance modulus of 14^m62 and $E(b-y) = 0^m016$, and also to the color-magnitude diagram of Grundahl et al. (1998) for M13 with their distance modulus of 14^m38 and $E(b-y) = 0^m011$. Then, assuming $[\text{Fe}/\text{H}] \approx -2.3$ for M92 and $[\text{Fe}/\text{H}] \approx -1.6$ for M13, the M_V value corresponding to the VMP star's $[\text{Fe}/\text{H}]$ has been interpolated or extrapolated. As a check, the models of Bergbusch & Vandenberg (2001) plus the color-temperature relations and isochrones of Clem et al. (2003) have been used to derive differential relations between ΔM_V and $\Delta[\text{Fe}/\text{H}]$ for the RG stars, $\Delta M_V \approx 0.845\Delta[\text{Fe}/\text{H}]$, and for the brighter SG stars, $\Delta M_V \approx 0.57\Delta[\text{Fe}/\text{H}]$. These differential relations are used together with the M_V measured from the color-magnitude diagram of M92 (Grundahl et al. 2000a), mentioned above, to again estimate M_V for the VMP RGs and brighter SGs. For $[\text{Fe}/\text{H}]$ values less than about -2.3 , these differential relations must also be extrapolated. For a very large majority of cases, these two methods gave M_V values which agree to within 0^m10 – 0^m15 . The latter method has been used for most of the M_V adopted.

For the HB stars of our sample, the color-magnitude diagram of M92 from Grundahl et al. (2000a), as provided by Grundahl (2000), has again been used, plus the relation $\Delta M_V = 0.2\Delta[\text{Fe}/\text{H}]$, from Harris (1994), as quoted by Kravtsov et al. (1997), to

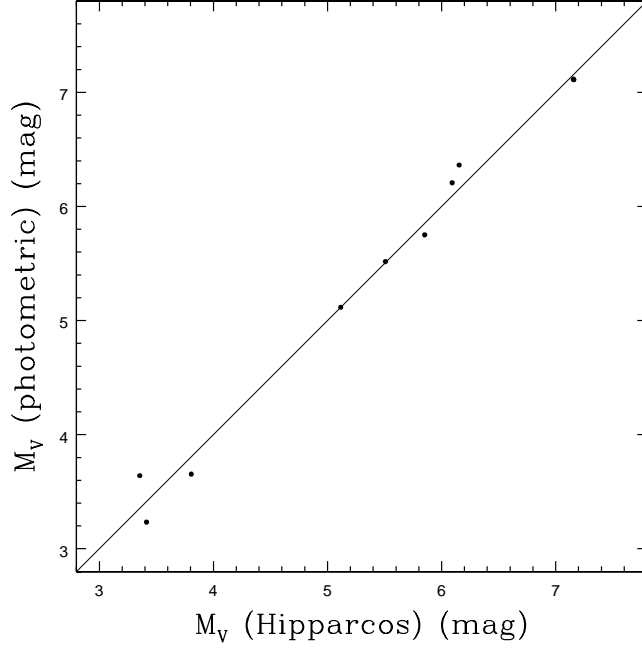


Fig. 7. M_V values are compared for nine of our calibration stars with $[\text{Fe}/\text{H}] < -1.50$, according to the $[\text{Fe}/\text{H}]$ calibration of Schuster & Nissen (1989). M_V calculated using *uvby* photometry plus our empirical, Hipparcos-based, photometric calibration are plotted against M_V values taken directly from the Hipparcos parallaxes. The solid, diagonal line shows a one-to-one relation.

correct from the $[\text{Fe}/\text{H}]$ of M92 to that of the VMP HB star. For the RHB–AGB and BHB stars, M_V has been read from the color-magnitude diagrams of M92 and M13, as referenced above, and then interpolated or extrapolated to the $[\text{Fe}/\text{H}]$ of the VMP star.

For the BS and a few of the brighter BS–TO stars, two processes have been employed depending upon $[\text{Fe}/\text{H}]$. For the metal-rich BS (Am) stars of Table 8, the A- and F-star calibrations of Crawford (1975b, 1979) have been used to derive M_V . Metal-poor BS have been compared to the blue stragglers of M3 (Rey et al. 2001) and of M13 (Grundahl et al. 1998) assuming their distance moduli of 14^m93 and 14^m38 , respectively. These two clusters both have $[\text{Fe}/\text{H}] \approx -1.6$, and so again the models of Bergbusch & Vandenberg (2001) plus the isochrones of Clem et al. (2003) were used to provide corrections to M_V as a function of $[\text{Fe}/\text{H}]$ for stars near the main sequence.

M_V for the SL–BHB stars has been derived by assuming that they are similar to the hot B subdwarfs studied by Villeneuve et al. (1995) with *uvby* photometry by Wesemael et al. (1992), and also are like stars observed near the lower end of the BHB in M13. Then a comparison was made between the $(M_V)_0$, $(b-y)_0$ and c_0 , $(b-y)_0$ diagrams for M13 using the *uvby* data provided by Grundahl (2000). By analogy M_V of such VMP SL–BHB stars was deduced from a comparison with their c_0 , $(b-y)_0$ diagram. There are only three SL stars in our sample, 17569–011, 22169–002, and 22948–027, the latter two are seen to be CH stars in Tables 3 and 5, and so their actual nature is dubious. We have assumed that they are white dwarfs, have taken their $(B-V)_0$ from the HK survey, and then derived M_V from Hansen & Kawaler (1994) and Weidemann (1968).

In Fig. 9 are compared the HK-survey D_1 and M_{V1} from the *UBV* photometry, as documented above, with the distances and M_V from *uvby* photometry and the several methods described above, over the full range of application: ≈ 0 –16 kpc. In general the agreement is quite good, considering the extrapolations necessary to calibrate and derive distances for the more metal-poor VMP stars. Some systematic differences are noted for some of the groups, but these are within the reasonable uncertainties of the calibration processes. For example, our HB distances are 5–10% larger than those of the HK survey, and our RG distances about 10% larger. The more discrepant stars in this figure are all RG, SG, and RHB–AGB stars and may indicate photometric variability, binary companions, and/or anomalous chemical compositions which affect the two photometries differently, as discussed above in Sect. 4.4. For example, the discrepant RG stars 22949–037 and 29498–043 are explained in the following paragraph.

During analyses and comparisons which followed those of this paper, a few possibly discrepant stars and their distances have come to light. For example, the distance of the RG star 22949–037 has been estimated at ≈ 14.7 kpc from the *uvby* photometry. This distance leads to very extreme Galactic velocities for this star, $(U', V', W') \approx (-622, -1420, -849)$, probably implying that it is not bound to the Galaxy (see Fig. 1 of Garcia-Cole et al. 1999). A more likely explanation is that the c_0 index is distorted by large CNO overabundances (Depagne et al. 2002), leading to an unrealistic distance. (22949–037 has not been labeled as a CH star in Tables 3 and 5 since its medium-resolution spectrum of the HK survey did not extend far enough into the red to capture the G band.) The VMP RG star 29498–043 has similar overabundances of C and N (Aoki et al. 2002a, 2002b), and so its *uvby*

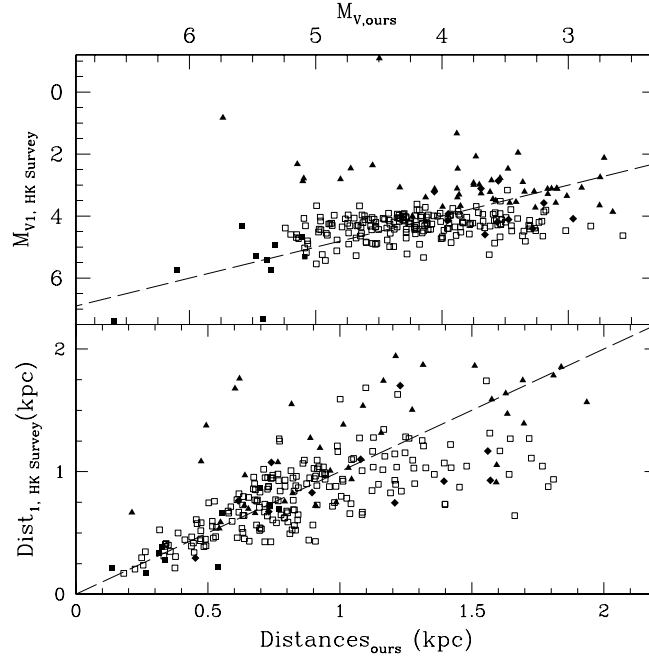


Fig. 8. Comparison of distances (D_1 , lower panel) and M_{V1} (upper panel) from the HK survey, derived from UBV photometry as discussed above, with those derived from $uvby$ photometry and our empirical, Hipparcos-based photometric calibration for M_V . The dashed lines show one-to-one relations. The open squares indicate TO stars, filled diamonds BS-TO, filled squares MS, and filled triangles SG. The comparison is shown for distances less than 2 kpc only, where our Hipparcos-based photometric calibration dominates.

distance in Table 9 is probably similarly in error. The stars 30339-041 and 31083-069 have both been classified as RHB-AGB stars, but their $uvby$ photometry falls within the limits of our Hipparcos-based calibration giving M_V more like SG stars. The explanation here may be anomalous chemical abundances for AGB-like stars, binary contamination, or photometric variability, especially the latter for 31083-069 for which the SPM and La Silla $uvby$ observations do not agree well. The stars 29515-060 (classified MS) and 31081-003 (classified SG) have widely different M_V values from different methods which should be applicable, such as the Hipparcos-based calibration and the comparison with GCs. The former shows a difference $\Delta M_V \approx 1^m06$, and the latter $\approx 3^m6$, and these differences may again imply anomalous chemical abundances or a binary companion for these two stars. As discussed above the $uvby$ data for 22955-032 can be used to appreciate the effects of photometric contamination by a nearby, fainter star; the three entries for this star show a range in M_V of nearly one magnitude and distance variations of nearly a factor of two.

7. Age comparisons

Figure 10 shows a $c_0, (b-y)_0$ diagram comparing the VMP stars, the metal-poor GC M92, and isochrones from the work of Bergbusch & Vandenberg (2001). For the VMP stars, the dereddened photometry and classifications are taken from Table 5. The $uvby$ data for M92 is that of Grundahl et al. (2000a), as provided by Grundahl (2000), has been corrected for a reddening of $E(b-y) = 0^m016$, as suggested by these authors, and this CCD data has been plotted only for those stars with more than eight observations in the u -band and $\text{abs(Sharp)} \leq 0.05$, from the DAOPHOT reduction package (Stetson 1987); this latter parameter measures the goodness of fit between the PSF of the object and the model PSF and is used to exclude non-stellar objects, double stars and stars affected by cosmic rays.

Also, the CCD $uvby$ data for M92 has been shifted by -0^m03 in c_0 , slightly less than the correction suggested by Grundahl et al. (2000a). They compared their $uvby$ data for M92 to that of local metal-poor stars from SN, especially the Hipparcos stars HD84937 and HD140283, using the $c_0, (v-y)_0$ and $M_V, (v-y)_0$ diagrams, and concluded that their c_0 values should be corrected by about $\approx -0^m04$; they suspect that this problem is due to a u -band zero-point error. Indeed, in the $c_0, (b-y)_0$ diagrams to follow (Figs. 10 and 11) we have noted a better overlap of the TO and SG distributions in c_0 if the M92 data is shifted downward by 0^m02 – 0^m03 , slightly less than that recommended by Grundahl et al. (2000a).

This is surprising since the $uvby$ data of our VMP stars and that of the M92 stars should both be closely on the same photometric system, that of Olsen (1983, 1984), which is also that of SN. For the present catalogues the photometric standard stars were selected as described above, from Olsen (1983, 1984), from SN, and from S96. SN took great care to transform their $uvby$ data onto the system of Olsen (1983, 1984), and for the S96 catalogue the photometric standards were taken from Olsen

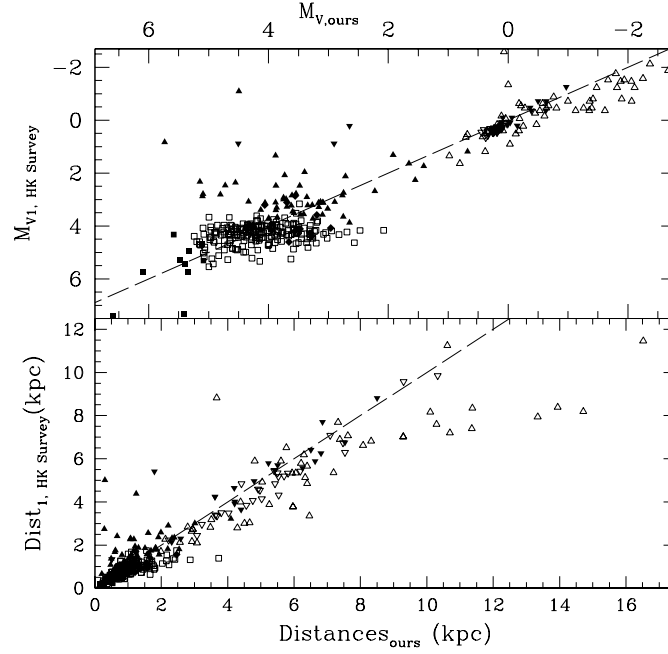


Fig. 9. The same as Fig. 8 but for the full range of distances and absolute magnitudes. The dashed lines show one-to-one relations. The open squares indicate TO stars, filled diamonds BS-TO, open diamonds BS, filled squares MS, filled triangles SG, open triangles RG, filled inverted triangles RHB-AGB, open inverted triangles HB, filled circles BHB, open circles SL-BHB, and asterisks the SL stars. The comparison is shown for all VMP stars of this paper and of S96 for which distances have been derived from the two photometric systems.

and from SN. Grundahl et al. (2000a) also selected their 55 *uvby* standard stars used to calibrate the M92 data from Olsen (1983, 1984) and from SN. So it all returns to that stated at the beginning of this paragraph: both sets of data (VMP and M92) should be closely on the standard *uvby* system defined by Olsen (1983, 1984).

Plausibly, there might also be a shift in the relative ($b-y$) systems as large as 0^m01 between the data of Grundahl et al. (2000a) and the present paper. However, the ($b-y$) observations are usually the easiest to transform to the standard system of all the *uvby* colors and indices, and these transformations are linear over a wide color range (Grønbech et al. 1976). For the photoelectric observations, typical instrumental errors in ($b-y$) for the standard stars are $\pm 0^m003$, and typical transformation dispersions, $\pm 0^m005$. Systematic problems should be of this order or less.

The reddening value for M92 taken from Grundahl et al. (2000a) is the canonical value, and seems to be very well determined (Harris 1996, 2003; Schlegel et al. 1998). However, some authors (e.g. King et al. 1998) have argued for a much higher reddening for M92 (0^m09 – 0^m10) using indirect spectroscopic comparisons. Such a high reddening for M92 seems to be highly unlikely (VandenBerg 2000), but a possible error of $\pm 0^m01$ in the canonical value cannot be ruled out, and should be kept in mind during the following relative-age comparisons.

In Fig. 10 clear evidence can be seen that the youngest VMP stars are somewhat younger than the GC M92. The upper extension along the isochrones of the VMP TO stars (the open squares) would indicate an age of 12–13 Gyrs, while the upper extent of M92, about 14.0–14.5 Gyrs for a difference of ≈ 1.5 –2.0 Gyrs. If one considers the transitional stars classified as BS-TO also as legitimate VMP turnoff stars, then 31066–027, plotted as a filled diamond with the values (c_0 , ($b-y$) $_0$, [Fe/H]) = (0^m431 , 0^m262 , -2.11), respectively, plus a couple of little-evolved TO stars, would indicate an even larger range of ≥ 2.0 –2.5 Gyrs between M92 and the youngest VMP stars. Our age for M92 agrees well with that derived by Grundahl et al. (2000a), 14.5 Gyrs, but we do not agree with them that “... the extremely metal-deficient field halo stars are most likely coeval with M92 to within 1 Gyr.” Other authors, such as Bell (1988), have also found that the bluest M92 stars are redder than the bluest VMP field subdwarfs, such as HD84937, by about 0^m03 in ($B-V$) $_0$, corresponding to 0^m02 in ($b-y$) $_0$ and an age difference of ≈ 2.5 Gyrs, assuming similar metallicities.

However, these comparisons depend critically upon the [Fe/H] values used for the VMP field stars and for M92, i.e. upon the consistency between the [Fe/H] scale for field subdwarfs and VMP subgiants and the scale for GCs in which the metallicities have been measured mainly for the brighter red-giant stars. For example, Bergbusch & VandenBerg (2001) suggest that indeed there is an inconsistency between subdwarf and GC [Fe/H] scales based upon their fitting of isochrones to observed color-magnitude diagrams for GCs. More specifically, the above value of [Fe/H] = -2.22 for M92 has been obtained by Grundahl et al. (2000a) using sources based upon the high-resolution spectroscopy of the brighter red-giant stars and upon the calibration of the integrated

light of GCs, while King et al. (1998) obtained $[\text{Fe}/\text{H}] = -2.52$ for M92 from high-resolution spectroscopic observations of three subgiants, a factor of two lower for the iron to hydrogen ratio. If this latter metallicity is indeed the correct one for M92, then in Fig. 10, VMP field stars with $[\text{Fe}/\text{H}] \approx -2.22$ are being compared to a GC with $[\text{Fe}/\text{H}] = -2.52$. According to the isochrones of Bergbusch & Vandenberg (2001), as transformed to *uvby* by Clem et al. (2003), a correction for this metallicity difference would increase the age differences discussed above by about 1.5 Gyrs. A more recent study of the GC $[\text{Fe}/\text{H}]$ scale by Kraft & Ivans (2003) suggests that at least part of the inconsistency with the subdwarf scale is due to non-LTE “overionization” effects for Fe I lines. For six red giants in M92 they obtain an average $[\text{Fe}/\text{H}] = -2.38$ from an analysis of Fe II lines only. Such a metallicity for M92 would require a correction of +0.8 Gyr to the age differences discussed above for Fig. 10.

In Fig. 11 the comparison of Fig. 10 is repeated, but now with the field VMP stars drawn from the range $-2.67 < [\text{Fe}/\text{H}] < -2.37$, which is centered on the value $[\text{Fe}/\text{H}] = -2.52$ for M92 obtained by King et al. (1998). This comparison would indicate age differences not that distinct from those of Fig. 10, despite the change in the mean metallicity of the field stars. Three TO stars along the axis of the isochrones would again suggest that the youngest VMP stars are 1.0–1.5 Gyrs younger than M92. The BS–TO star 22876–039 ($0^m486, 0^m256, -2.60$), and two little-evolved TO stars would indicate larger age differences, $\gtrsim 3.0$ Gyrs.

These results are somewhat surprising, considering that M92 is among the more metal-poor and older GCs of the Galaxy (Vandenberg 2000), and that there is evidence that the formation of all metal-poor Galactic GCs was triggered throughout the Galaxy at the same time to within ≈ 1 Gyr (Harris et al. 1997; Lee et al. 2001). Also, several previous studies (such as those of Pont et al. 1998 and of Grundahl et al. 2000a) have concluded that the more metal-poor field subdwarfs are coeval with M92 to within about 1 Gyr; however, these works have in general used only the more local subdwarfs, such as those from SN or Hipparcos. The VMP stars of this paper span a larger volume in the Galaxy, and the younger VMP stars of Figs. 10 and 11, which appear to be at least 1–3 Gyrs younger than M92, may reveal evidence for the belated formation of VMP stars outside of the Galactic GCs, the hierarchical infall of VMP material from the outermost parts of the proto-Galaxy after the GC system had formed (Sandage 1990), and/or the accretion of material from another galaxy with formation and chemical-enrichment histories different from that of the Galaxy (Preston et al. 1994; Ibata et al. 1994). For example, Preston et al. have concluded that their blue metal-poor stars ($[\text{Fe}/\text{H}] < -1.0$ and $0^m15 < (B - V)_0 < 0^m35$, bluer than the GC turnoffs) are probably the result of accretion events by the Galaxy of material from dwarf galaxies, and the study of seven dwarf spheroidals by Dolphin (2002) has indeed shown recent (0.5–5 Gyrs) star formation for more than half of these (Carina, Leo I, Leo II, and Sagittarius), but higher metallicities ($[\text{Fe}/\text{H}] \approx -1.0$ to -1.2) than the present VMP stars. However, a previous compilation by Mateo (1998) gave $[\text{Fe}/\text{H}] \approx -1.9$ to -2.0 for Carina and Leo II, more in line with our VMP stars, but requiring an increase in the age estimates of Dolphin by ≈ 5 Gyrs. Nevertheless, stars with $[\text{Fe}/\text{H}] \approx -2.0$ and ages of 5–10 Gyrs would come close to explaining the bluer VMP TO stars of Figs. 10 and 11.

8. Conclusions

1. The overall VMP HK-survey sample contains a wide range of stellar types, ranging from horizontal branch stars to subluminous, and from red giant stars to the blue horizontal branch.
2. The dereddened $c_0, (b - y)_0$ diagram has been shown to be quite useful for providing photometric classifications of the VMP stars analogous to types derived from GC color-magnitude diagrams, such as Turn-Off stars (TO), SubGiants (SG), Red Giants (RG), Horizontal Branch stars (HB), Blue Horizontal Branch stars (BHB), Blue Stragglers (BS), SubLuminous stars (SL), and so forth (see Fig. 6).
3. The intrinsic-color calibration of Schuster & Nissen (1989), as modified slightly by Nissen (1994), is shown to provide reddening excesses, $E(b - y)$ or $E(B - V)$, very similar to the adopted reddening estimates derived in this publication from the maps of Schlegel, Finkbeiner, & Davis (1998) (see Eq. 1). No significant systematic offsets between these two dereddening techniques are noted (see Fig. 3).
4. A number of VMP stars have been noted with probable anomalous photometric traits, especially from the m_1 and $[m_1]$ indices; two such groups stand out. First, there are several stars with $(b - y)_0 \lesssim 0^m45$ and with $m_0 \gtrsim 0^m17$, much larger than would be expected for VMP stars with $[\text{Fe}/\text{H}] \lesssim -1.5$. Most of these have been classified SG, and some show clear evidence of photometric variability. These are perhaps analogous to stars discussed in S96 with larger than expected $[m_1]$ values. We suggest here that these are misclassified AGB stars with unusual chemical-abundance ratios, photometric variability, and/or binary companions.
5. The second group of anomalous stars are those ten classified BS and having m_1 , $[m_1]$, and $(U - B)_0$ values indicating nearly solar $[\text{Fe}/\text{H}]$ values. There is a clear discrepancy here between these photometric indices and the KP index used to derive $[\text{Fe}/\text{H}]$ for the HK survey. These stars are very similar to the Am stars identified by Wilhelm et al. (1999a, 1999b) and have been noted as “BS (Am)” in Table 5.
6. The photometric distances from the *UBV* and *uvby* photometries agree reasonably well considering the problems, lack of calibrating stars, and extrapolations needed for the more VMP stars. Our Hipparcos-based, photometric calibration for M_v seems to work quite well for the turn-off, main-sequence, and subgiant VMP stars, as suggested in Figs. 7 and 8.
7. In the $c_0, (b - y)_0$ diagram, the youngest VMP stars appear to have ages 1–3 Gyrs younger than the GC M92. Uncertainties in the $[\text{Fe}/\text{H}]$ scale for M92 would tend to increase this age difference even more. (The interstellar reddening of M92 seems to

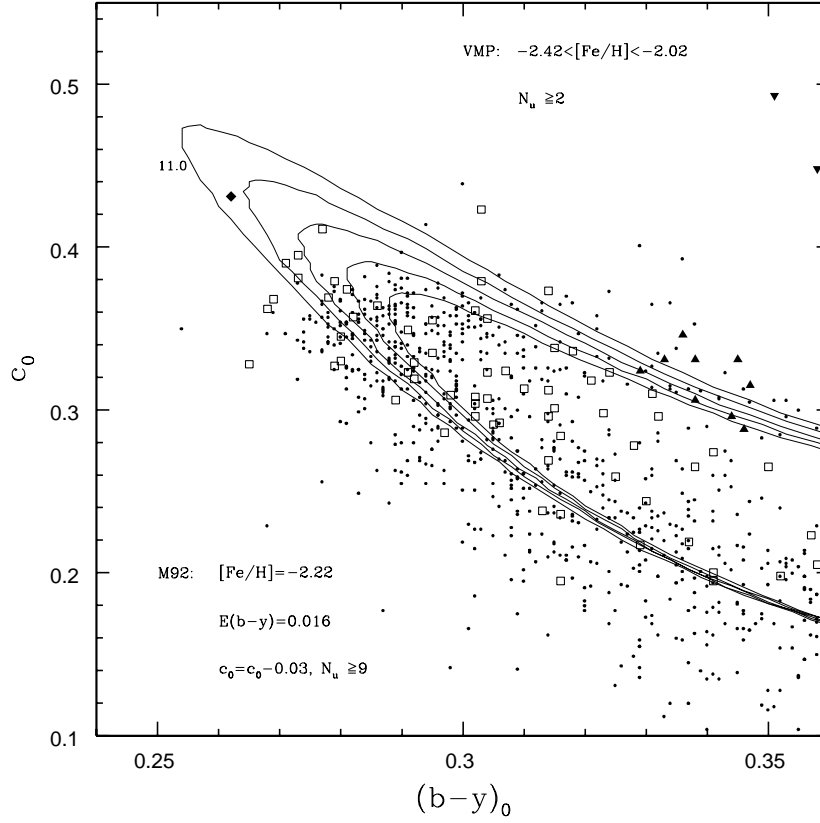


Fig. 10. Comparison in the c_0 , $(b-y)_0$ diagram of the VMP stars with $-2.42 \leq [\text{Fe}/\text{H}] \leq -2.02$ (with the same symbols as defined in Fig. 6), with the $uvby$ observations of M92 provided by Grundahl (2000a; points), and with the isochrones of Bergbusch & Vandenberg (2001) as transformed to $uvby$ photometry by Clem et al. (2003; solid curves). The isochrones are those for $[\text{Fe}/\text{H}] = -2.31$ and $[\alpha/\text{Fe}] = +0.30$, and have been plotted for 11, 12, 13, 14, and 15 Gyrs. The $[\text{Fe}/\text{H}]$ of M92 has been taken here to be -2.22 according to the average derived by Grundahl et al. (2000a) from several high resolution spectroscopic studies of cluster giants found in the literature. Only those VMP stars with two or more $uvby$ observations have been plotted, and only those GC stars with more than eight u observations and $\text{abs}(\text{SHARP}) \leq 0.05$. The M92 photometry has been shifted by -0.03 in c_0 , similar to that correction suggested by Grundahl et al. (2000a).

be well determined but might be as uncertain as ± 0.01). Such younger VMP stars are showing evidence for important details upon the overall formation and evolution of the Galaxy, such as possible hierarchical star-formation/mass-infall for the VMP material, and/or accretion processes from other (dwarf) galaxies with different formation and chemical-enrichment histories.

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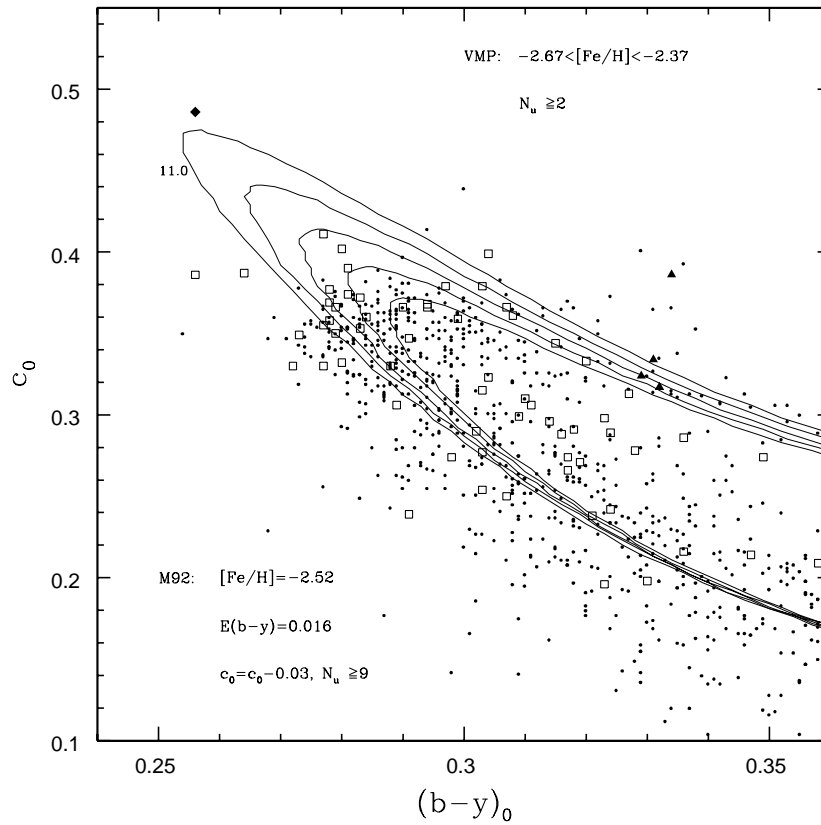


Fig. 11. The same $c_0, (b-y)_0$ diagram as Fig. 10 but assuming that M92 has $[Fe/H] = -2.52$ according to the study of King et al. (1998) from high-resolution spectroscopy of three subgiants. The VMP stars are plotted for the range $-2.67 \leq [Fe/H] \leq -2.37$ (again with the same symbols as Fig. 6), with the same *uvby* observations of M92 and with the same isochrones as in Fig. 10. Again, only those VMP stars with two or more *uvby* observations have been plotted, and the M92 data has been shifted by -0.03 in c_0 . Isochrones have been plotted for 11, 12, 13, 14, and 15 Gyrs.

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Table 1. $uvby-\beta$ data from SPM

STAR	V	$b-y$	m_1	c_1	N_{uvby}	β	N_β	Notes
15621-006	13.349	0.360	0.042	0.301	3	2.587	3	
15621-024	14.579	0.335	0.075	0.309	3	.....	0	
15621-051	13.766	0.256	0.083	0.875	3	2.653	3	V
15621-058	14.412	0.213	0.110	0.705	3	.....	0	
15621-070	12.634	0.257	0.116	0.510	3	2.671	3	
15621-073	13.516	0.333	0.064	0.331	3	2.590	3	
15621-077	13.877	0.345	0.044	0.299	3	2.619	3	
15622-055	14.286	0.269	0.106	0.458	3	.....	0	
15623-023	14.305	0.331	0.053	0.291	3	.....	0	
15624-040	13.550	0.352	0.018	0.284	3	2.578	2	
16026-006	14.356	0.292	0.079	0.358	3	.....	0	
16026-040	13.354	0.320	0.076	0.336	3	2.616	3	
16026-068	10.869	0.326	0.052	0.296	3	2.602	3	
16026-073	13.406	0.244	0.134	0.547	3	2.675	3	
16027-029	15.262	0.277	0.040	0.411	3	.....	0	
16027-043	14.961	0.334	0.026	0.324	3	.....	0	
16027-046	14.927	0.371	0.010	0.210	3	.....	0	
16027-049	13.487	0.341	0.053	0.699	3	2.575	3	
16033-008	13.803	0.489	0.013	0.253	2	2.538	2	
16033-081	13.419	0.533	0.101	0.370	3	2.514	3	++ RG
16076-006	13.532	0.448	0.033	0.233	3	2.534	3	
16076-040	12.136	0.330	0.063	0.296	3	2.615	3	
16076-050	13.311	0.421	0.053	0.228	3	2.533	3	
16077-007	12.411	0.303	0.052	0.315	3	2.623	3	
16077-023	12.470	0.317	0.038	0.377	3	2.617	3	
16081-038	13.993	0.261	0.121	0.323	3	2.643	3	
16083-019	13.032	0.344	0.044	0.318	3	2.603	3	
16083-096	13.784	0.362	0.028	0.218	3	2.575	3	
16084-160	13.162	0.624	0.058	0.420	3	2.513	3	++ RG;D?,fntr st os dph
16085-050	12.162	0.547	0.044	0.383	3	2.529	3	++ RG
16089-013	13.339	0.535	0.076	0.348	3	2.498	3	++ RG
16089-042	14.282	0.340	0.034	0.710	2	2.605	1	V?
16089-086	14.117	0.311	0.061	0.768	3	.....	0	V
16090-038	13.127	0.148	0.074	0.194	3	2.668	3	
16468-009	14.787	0.338	0.063	0.199	3	.....	0	
16469-075	13.392	0.539	0.077	0.366	3	2.525	3	++ RG
16470-007	14.011	0.520	0.087	0.328	3	.....	0	
16470-061	14.195	0.313	0.080	0.312	3	.....	0	
16470-062	13.717	0.528	0.361	0.093	3	2.564	2	
16472-092	13.258	0.344	0.058	0.313	3	2.614	3	
16477-038	12.708	0.502	0.060	0.435	3	2.536	3	++ RG
16479-065	12.189	0.347	0.061	0.278	3	2.597	3	
16541-022	13.880	0.311	0.049	0.471	3	2.617	3	
16541-052	12.677	0.263	0.037	0.962	4	2.669	4	V
16543-068	12.068	0.333	0.073	0.272	3	2.589	3	
16543-097	12.585	0.515	0.060	0.287	3	2.525	3	
16546-075	13.186	0.407	0.050	0.266	3	2.530	3	
16546-098	13.962	0.319	0.054	0.345	2	.....	0	
16547-049	14.008	0.372	0.057	0.364	3	.....	0	
16548-009	13.821	0.460	0.193	0.398	3	2.585	3	

Table 1. $uvby-\beta$, SPM. Continued...

STAR	V	$b-y$	m_1	c_1	N_{uvby}	β	N_β	Notes
16548-070	13.704	0.471	0.059	0.290	2	2.514	1	
16549-007	14.123	0.454	0.051	0.237	3	.....	0	
16549-017	12.509	0.303	0.051	0.379	3	2.606	3	
16549-043	14.160	0.471	0.069	0.111	3	.....	0	D,fntr st in dph
16550-014	12.066	0.394	0.064	0.494	3	2.557	3	
16550-043	14.470	0.326	0.047	0.691	3	.....	0	
16551-118	12.254	0.494	0.194	0.377	3	2.604	3	++ RG
16552-042	14.435	0.344	0.038	0.645	2	.....	0	
16552-086	14.427	0.436	0.194	0.391	2	.....	0	
16557-012	14.079	0.322	0.075	0.343	3	2.584	3	
16557-024	13.071	0.362	0.135	0.340	4	2.581	4	
16557-063	14.448	0.219	0.070	1.007	3	.....	0	V
16557-074	12.271	0.317	0.062	0.274	3	2.613	3	
16558-001	14.077	0.366	0.072	0.625	4	.....	0	
16558-021	12.513	0.329	0.077	0.351	3	2.620	3	
16920-017	13.886	0.555	0.087	0.364	2	2.525	2	++ RG
16928-053	13.459	0.616	0.077	0.402	2	.....	0	++ RG
16929-005	13.654	0.478	0.025	0.299	2	2.537	2	
16929-035	12.990	0.305	0.058	0.367	3	2.616	3	
16934-002	12.837	0.651	0.109	0.479	2	2.512	2	++ RG
16934-018	14.109	0.350	0.044	0.276	3	2.616	3	
16934-060	14.113	0.468	0.027	0.271	3	.....	0	
16968-061	13.207	0.366	0.027	0.367	3	2.624	3	D,fntr st in dph
16972-003	14.296	0.303	0.063	0.333	3	.....	0	
16972-009	14.383	0.318	0.074	0.257	3	.....	0	
16972-013	13.623	0.354	0.074	0.283	3	2.611	2	
16972-041	12.997	0.315	0.066	0.338	3	2.593	3	
16986-072	13.399	0.679	0.308	0.412	3	2.556	3	++ RG
17136-014	13.337	0.284	0.058	0.890	4	2.617	4	V
17139-007	14.487	0.338	0.067	0.199	3	.....	0	
17435-003	12.102	0.298	0.032	0.817	3	2.631	3	V
17435-024	13.074	0.420	0.021	0.274	2	2.536	2	
17438-020	14.054	0.409	0.111	0.371	4	.....	0	
17438-082	13.277	0.236	0.227	0.668	3	2.687	2	
17439-054	13.001	0.421	0.141	0.349	3	2.596	3	
17439-055	11.111	0.258	0.093	0.650	3	2.659	3	
17439-065	13.464	0.510	0.054	0.436	3	.....	0	++ RG
17444-032	13.530	0.328	0.077	0.278	3	2.598	3	
17444-046	13.212	0.369	0.061	0.240	3	2.572	3	
17444-059	13.117	0.343	0.106	0.463	2	2.629	2	
17448-016	10.289	0.210	0.214	0.701	5	2.736	5	
17448-033	13.534	0.215	0.149	0.628	3	2.713	3	
17570-009	13.162	0.460	0.037	0.499	2	2.536	2	
17570-011	12.905	0.336	0.065	0.669	2	2.588	2	V?
17572-057	13.606	0.432	0.192	0.345	3	2.608	3	
17572-067	13.362	0.336	0.090	0.321	3	2.632	3	
17572-100	12.269	0.304	0.044	0.397	3	2.620	2	
17574-129	10.744	0.473	0.018	0.700	4	2.577	4	++ RG
17575-163	12.617	0.317	0.190	0.744	3	2.735	3	ID?,wo finding chart
17575-168	13.398	0.472	0.020	0.357	3	2.574	3	

Table 1. *uvby*- β , SPM. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	β	N_β	Notes
17575-169	12.378	0.291	0.197	0.739	3	2.749	3	
17576-002	10.531	0.344	0.065	0.308	3	2.601	3	
17576-027	11.819	0.388	0.035	0.567	3	2.566	3	
17576-043	9.950	0.216	0.220	0.689	3	2.730	3	
17576-071	12.265	0.324	0.079	0.334	3	2.612	3	
17577-010	10.717	0.219	0.203	0.675	3	2.747	3	
17577-012	10.694	0.060	0.174	1.069	3	2.886	3	Blue st
17578-056	9.910	0.225	0.211	0.706	2	2.753	2	
17579-012	.....	0.146	0.045	-0.126	1	2.601	1	Blue st
17581-075	12.039	0.284	0.198	0.530	4	2.696	4	V?
17581-077	12.809	0.310	0.048	0.383	2	2.614	2	
17581-078	10.687	0.191	0.230	0.693	4	2.733	3	
17581-113	13.118	0.380	0.123	0.355	4	2.601	4	V?
17582-050	11.636	0.257	0.107	0.625	3	2.701	3	
17582-096	13.720	0.347	0.097	0.432	2	.....	0	
17582-113	13.031	0.360	0.054	0.294	2	2.596	2	
17583-067	12.582	0.237	0.226	0.681	3	2.734	2	D?,ocntr to excl fnt st
17583-100	12.358	0.420	0.021	0.330	2	2.575	2	
17585-132	12.391	0.522	0.148	0.731	3	2.729	3	++ RG
17586-014	11.926	0.470	0.199	0.306	3	2.577	3	
17586-048	11.903	0.301	0.064	0.371	4	2.635	4	
22166-024	13.857	0.329	0.046	0.375	2	.....	0	
22166-030	13.588	0.355	0.032	0.315	3	2.603	2	
22169-002	13.327	0.375	0.062	-0.086	2	2.566	2	
22169-019	13.771	0.327	0.054	0.312	3	2.618	3	
22169-035	12.908	0.660	0.080	0.460	3	2.540	2	++ RG
22170-021	14.159	0.345	0.039	0.331	3	2.552	1	
22171-009	13.385	0.318	0.049	0.371	4	2.609	4	
22171-016	13.151	0.315	0.054	0.344	4	2.609	4	
22171-031	13.962	0.309	0.048	0.361	4	2.621	4	
22171-034	13.313	0.332	0.050	0.296	3	2.578	3	
22172-002	12.747	0.608	0.024	0.365	3	2.528	3	++ RG
22172-019	14.299	0.358	0.024	0.369	3	.....	0	
22173-002	13.457	0.325	0.065	0.292	3	2.612	3	
22173-014	13.720	0.316	0.049	0.373	3	2.612	3	
22173-015	13.208	0.367	0.018	0.229	3	2.578	3	
22174-007	12.411	0.500	0.060	0.302	2	2.521	2	
22175-013	12.960	0.304	0.055	0.356	4	2.592	4	
22180-005	14.056	0.406	0.024	0.298	3	.....	0	
22180-034	14.320	0.351	0.050	0.222	3	.....	0	
22180-036	14.572	0.457	0.213	0.370	3	.....	0	
22182-022	13.030	0.323	0.056	0.338	3	2.586	3	
22182-047	13.250	0.385	0.046	0.305	3	2.570	3	
22185-006	14.234	0.362	0.037	0.255	3	.....	0	
22185-025	14.225	0.324	0.057	0.340	4	.....	0	
22186-005	12.974	0.308	0.032	0.726	6	2.641	5	
22189-036	14.402	0.360	0.028	0.269	3	.....	0	
22190-007	14.218	0.373	0.047	0.498	4	.....	0	
22871-084	14.352	-0.042	0.055	-0.003	4	2.666	4	Blue st
22871-107	14.034	0.373	0.056	0.335	3	.....	0	

Table 1. *uvby*- β , SPM. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	β	N_β	Notes
22872-010	14.539	0.401	0.027	0.809	3	.....	0	V
22872-036	14.893	0.445	0.009	0.409	2	.....	0	D,fnt st edge of dph
22872-079	14.989	0.406	0.018	0.284	3	.....	0	
22874-012	15.163	0.065	0.119	1.265	3	.....	0	
22876-042	13.116	0.299	0.054	0.392	3	2.613	3	
22877-011	13.870	0.456	0.070	0.287	3	.....	0	
22877-015	13.231	0.335	0.054	0.341	3	2.592	3	
22878-002	14.383	0.382	0.013	0.255	4	.....	0	
22878-003	14.421	0.377	0.033	0.340	2	.....	0	
22878-013	13.254	0.382	0.022	0.378	3	2.601	3	
22880-109	14.654	0.383	0.043	0.321	3	.....	0	
22882-008	14.002	0.297	0.073	0.379	3	2.618	4	
22883-004	14.250	0.331	0.069	0.313	2	.....	0	
22883-020	14.585	0.336	0.034	0.378	3	.....	0	
22884-006	14.923	0.033	0.061	0.581	4	.....	0	
22886-012	14.539	0.375	0.025	0.338	5	.....	0	
22887-005	14.695	0.361	0.023	0.330	3	.....	0	
22889-050	14.268	0.348	0.035	0.408	3	.....	0	V?
22890-064	14.734	0.358	0.018	0.284	2	.....	0	
22890-074	13.915	0.120	0.044	0.026	2	.....	0	
22892-041	14.320	0.342	0.037	0.338	3	.....	0	
22894-023	13.752	0.356	0.017	0.387	2	2.589	2	
22898-043	14.058	0.364	0.019	0.692	3	.....	0	
22936-242	14.158	0.366	0.032	0.262	4	.....	0	
22944-011	12.011	0.327	0.055	0.325	3	2.614	3	
22946-014	14.025	0.325	0.056	0.316	3	.....	0	
22949-007	13.697	0.321	0.058	0.298	4	2.612	3	
22949-029	14.655	0.378	0.055	0.208	3	.....	0	
22949-052	13.869	0.314	0.065	0.312	2	2.591	2	
22950-078	14.648	0.339	0.051	0.364	4	.....	0	
22952-004	13.512	0.340	0.055	0.345	2	2.635	2	
22955-032	14.584	0.465	0.056	0.205	3	.....	0	D,all obs of st
22955-032	14.480	0.499	0.064	0.178	2	.....	0	D,more contm obs of st
22955-032	14.792	0.398	0.040	0.258	1	.....	0	D?,less contm obs of st
22955-117	14.435	0.359	0.033	0.334	2	.....	0	
22955-174	14.436	0.400	0.042	0.502	2	.....	0	
22957-022	13.342	0.494	0.027	0.389	2	2.528	2	++ RG
22961-021	13.777	0.332	0.057	0.317	3	2.567	3	D?,fnt st in dph?
22962-021	13.511	0.336	0.036	0.315	3	2.609	3	
22965-029	13.761	0.432	0.048	0.483	3	.....	0	D?,ocntr S;ftr st js os dph
22965-035	14.637	0.309	0.062	0.338	3	.....	0	
22965-054	15.080	0.425	-0.007	0.429	2	.....	0	
22965-075	14.439	0.352	0.044	0.360	3	.....	0	
22966-011	14.561	0.322	0.059	0.224	3	.....	0	
22966-019	14.054	0.337	0.042	0.219	3	2.612	3	
29491-084	13.500	0.300	0.058	0.377	5	2.625	3	
29493-023	14.592	0.302	0.065	0.350	3	.....	0	
29494-020	14.210	0.362	0.048	0.323	3	.....	0	
29495-005	14.344	0.332	0.040	0.367	3	.....	0	
29499-058	13.813	0.320	0.064	0.333	3	2.596	2	

Table 1. *uvby*- β , SPM. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	β	N_β	Notes
29504-018	13.713	0.280	0.088	0.332	4	2.666	3	
29512-006	14.502	0.342	0.059	0.285	3	.....	0	
29512-030	14.638	0.321	0.066	0.245	4	.....	0	
29512-043	13.447	0.359	0.045	0.269	3	2.604	3	
29512-076	13.961	0.358	0.040	0.723	2	.....	0	
29517-042	14.099	0.319	0.059	0.291	3	.....	0	
29518-005	14.560	0.327	0.049	0.334	3	.....	0	
29518-020	14.040	0.304	0.083	0.310	3	.....	0	
29518-043	14.577	0.287	0.075	0.384	4	.....	0	
29527-057	13.825	0.262	0.053	0.860	1	.....	0	
29528-030	13.722	0.318	0.063	0.336	5	2.615	4	
30301-024	12.995	0.329	0.039	0.360	3	2.633	3	
30311-022	14.185	0.303	0.083	0.277	3	2.618	3	
30311-068	14.096	0.279	0.075	0.512	3	.....	0	
30312-165	12.454	0.298	0.071	0.467	3	2.690	3	
30320-069	14.547	0.373	0.016	0.208	2	.....	0	
30320-075	.....	0.235	0.055	0.901	2	2.671	2	V
30320-109	13.878	0.384	0.046	0.512	3	.....	0	
30324-024	13.110	0.403	0.026	0.487	2	2.574	2	
30325-028	12.889	0.560	0.066	0.356	2	2.501	2	++ RG, V?
30325-094	12.329	0.532	0.029	0.329	2	2.509	2	
30329-004	11.906	0.594	0.034	0.414	5	2.546	2	++ RG
30331-060	14.734	0.380	0.045	0.225	4	.....	0	D?,fnt(r) st os dph
30332-012	14.485	0.401	0.018	0.295	3	2.641	3	
30333-002	11.343	0.401	0.054	0.118	3	2.561	3	=G029-071
30333-047	13.531	0.461	0.046	0.391	1	2.607	1	
30338-119	13.832	0.464	0.047	0.119	3	2.512	3	
30494-003	12.401	0.488	0.030	0.347	2	2.551	2	
30494-016	14.747	0.338	0.039	0.289	3	.....	0	
31061-062	13.922	0.375	0.016	0.370	2	2.640	1	
31062-012	12.109	0.344	0.065	0.212	2	2.584	2	
31063-050	11.438	0.353	0.048	0.384	2	2.603	2	
31065-040	13.095	0.328	0.029	0.745	3	2.609	3	
31066-001	12.975	0.380	0.055	0.163	3	2.578	3	
31066-027	11.991	0.262	0.080	0.431	3	2.638	3	
31067-019	12.592	0.379	0.043	0.216	3	2.575	3	
31070-080	13.193	0.169	0.061	-0.016	2	2.642	2	
31074-063	11.404	0.362	0.043	0.320	2	2.608	2	
31079-004	13.157	0.370	0.040	0.365	2	2.632	2	
31082-001	11.675	0.543	0.089	0.334	3	2.529	3	
31083-069	13.242	0.800	0.029	0.570	2	.....	0	++ RG
31084-022	11.561	0.368	0.038	0.393	3	2.608	3	
31085-024	14.010	0.510	-0.049	0.242	2	.....	0	
31087-045	13.843	0.515	0.002	0.339	3	2.633	3	
31090-086	11.097	0.314	0.055	0.357	3	2.605	3	

Notes: V,V?=variable(?); RG=red subgiant-giant; fnt(r)=faint(er); st=star;
os=outside; dph=diaphragm; D,D?=double(?); wo=without; excl=exclude;
obs=observation(s); contm=contaminated; ocnt=offcenter; js=just; S=south

Table 2. *uvby* data from La Silla.

STAR	V	$b - y$	m_1	c_1	N_{uvby}	Notes
17569-011	10.805	1.108	0.258	-0.214	1	
17575-163	12.639	0.298	0.191	0.713	2	
17575-168	13.429	0.456	-0.001	0.345	1	
17579-012	12.341	0.149	0.025	-0.147	2	
22169-035	12.936	0.642	0.120	0.474	2	
22172-002	12.763	0.593	0.059	0.398	2	
22172-033	13.834	0.372	0.107	0.273	1	
22172-035	14.310	0.312	0.066	0.412	2	
22176-018	13.485	0.391	0.165	0.336	1	
22185-007	13.342	0.535	0.081	0.298	1	
22186-020	13.355	0.349	-0.027	0.841	1	
22186-023	12.938	0.516	0.047	0.368	1	
22186-025	14.244	0.539	0.097	0.394	1	
22188-006	11.976	0.289	0.104	0.269	1	
22188-033	13.196	0.340	0.034	0.234	2	
22188-048	11.987	0.574	0.088	0.433	1	
22189-009	14.087	0.540	0.091	0.353	2	
22189-018	15.369	0.284	0.052	0.362	1	
22191-019	13.011	0.330	0.009	0.341	1	
22191-024	13.573	0.553	-0.017	0.500	1	
22191-029	14.050	0.336	0.029	0.669	2	
22873-055	12.688	0.672	0.121	0.488	2	
22873-128	13.064	0.505	0.083	0.378	1	
22873-166	11.840	0.667	0.197	0.505	2	V?
22875-029	13.685	0.309	0.053	0.682	2	
22876-029	14.518	0.307	0.053	0.679	1	
22876-034	13.761	0.289	0.075	0.725	1	
22876-039	14.306	0.256	0.043	0.486	2	
22879-092	14.676	0.319	0.065	0.354	2	
22880-013	13.697	0.319	0.048	0.312	2	
22880-058	14.528	0.344	0.029	0.374	2	
22880-067	15.082	0.431	0.014	0.245	2	
22881-032	15.232	0.259	0.131	0.325	2	
22881-039	14.963	0.285	0.080	0.685	2	V?
22882-012	15.268	0.311	-0.027	0.478	1	
22882-027	15.113	0.299	0.050	0.337	2	
22882-030	14.826	0.320	0.026	0.411	1	
22885-034	13.653	0.323	0.050	0.388	2	
22885-096	13.325	0.530	0.044	0.414	1	
22885-143	13.916	0.569	0.101	0.419	3	
22887-048	12.882	0.294	0.084	0.430	1	
22891-047	13.496	0.584	0.053	0.428	2	
22891-171	14.298	0.540	0.276	0.088	2	
22891-200	13.955	0.633	0.079	0.398	2	
22891-209	12.172	0.629	0.101	0.490	2	
22894-023	13.772	0.326	0.049	0.360	2	
22898-023	14.535	0.354	0.045	0.382	1	
22937-087	14.870	0.165	0.017	-0.116	2	
22939-272	13.440	0.446	0.022	0.574	2	
22941-015	15.201	0.305	0.038	0.369	2	

Table 2. *uvby*, La Silla. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	Notes
22941-027	14.036	0.295	0.046	0.718	2	
22943-059	14.656	0.303	0.059	0.387	2	
22943-137	14.485	0.358	0.053	0.296	2	
22943-201	15.018	0.321	0.083	0.329	2	
22946-011	13.942	0.280	0.053	0.453	2	
22947-114	13.914	0.435	0.040	0.351	2	
22947-302	13.944	0.539	0.074	0.396	1	
22948-027	12.742	0.708	0.482	-0.311	2	
22948-043	13.427	0.024	0.096	1.239	2	
22948-093	15.168	0.301	0.066	0.375	2	
22948-104	13.959	0.440	0.075	0.271	1	
22949-037	14.383	0.595	0.013	0.401	1	
22949-048	13.691	0.559	0.134	0.363	1	
22950-046	14.227	0.649	0.105	0.457	3	
22950-063	14.233	0.567	0.032	0.449	2	
22950-096	13.910	0.378	0.031	0.329	1	
22950-153	13.742	0.425	0.061	0.283	2	
22950-173	14.071	0.328	0.044	0.300	2	
22951-060	13.028	0.049	0.070	1.246	2	
22952-015	13.304	0.551	0.083	0.498	2	V?
22959-231	14.829	0.338	0.066	0.241	2	
22960-053	14.850	0.499	0.131	0.357	1	
22960-060	15.708	0.282	0.082	0.387	1	
22961-002	13.150	0.315	0.054	0.345	1	
22961-023	12.041	0.285	0.068	0.350	1	
22961-054	14.614	0.329	0.062	0.317	1	
22964-176	15.351	0.363	0.016	0.253	1	
22964-183	14.530	0.340	0.051	0.386	2	
22966-048	14.890	0.278	0.070	0.389	1	
22966-057	14.336	0.416	0.087	0.218	1	
22967-019	14.244	0.255	0.076	0.444	2	
22968-014	13.729	0.516	0.119	0.350	2	
29491-053	12.930	0.609	0.081	0.454	2	
29491-069	13.116	0.451	0.065	0.312	1	
29491-076	12.624	0.321	0.048	0.358	1	
29491-100	13.623	0.363	0.036	0.269	1	
29495-041	13.357	0.546	0.092	0.415	1	
29497-026	15.156	0.081	0.019	-0.191	2	
29497-030	12.668	0.224	0.090	0.524	2	
29498-043	13.735	0.726	0.249	0.331	1	
29499-065	15.255	0.332	0.030	0.332	1	
29502-092	11.895	0.568	0.059	0.336	1	
29503-017	14.341	0.326	0.058	0.322	1	
29503-026	13.517	0.328	0.045	0.369	2	
29505-013	14.721	0.382	0.086	0.133	2	
29509-027	12.434	0.221	0.090	0.541	1	
29509-032	13.628	0.269	0.112	0.326	1	
29509-047	14.129	0.279	0.075	0.384	1	
29510-054	14.185	0.344	0.016	0.327	2	
29513-014	13.877	0.373	0.120	0.403	1	

Table 2. *uvby*, La Silla. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	Notes
29513-031	15.128	0.260	0.067	0.396	2	
29515-060	14.031	0.379	0.095	0.107	1	
29516-028	14.956	0.452	0.033	0.178	2	
29518-027	13.963	0.349	0.125	0.272	1	
29518-033	14.018	0.219	0.087	0.644	1	
29518-039	14.276	0.242	0.078	0.440	2	
29518-045	14.983	0.316	0.049	0.401	1	
29518-051	13.028	0.471	0.025	0.378	1	
29519-080	13.546	0.333	0.028	0.341	1	
29519-132	15.040	0.317	0.047	0.339	2	
29519-133	12.872	0.330	0.030	0.366	2	
29520-089	14.608	0.291	0.048	0.427	2	
29522-046	12.734	0.422	0.031	0.291	3	
29526-108	13.494	0.392	0.033	0.282	2	
29526-110	13.339	0.272	0.086	0.432	3	
29526-126	13.961	0.331	0.068	0.334	3	
29526-147	14.341	0.321	0.065	0.318	2	
29526-148	14.208	0.306	0.063	0.333	3	
29527-048	14.834	0.369	0.018	0.293	1	
29528-028	14.502	0.274	0.066	0.483	3	
29528-041	14.586	0.331	0.030	0.365	3	
29529-119	14.575	0.392	0.048	0.272	2	
29529-054	14.857	0.402	0.018	0.207	1	
30302-145	14.471	0.323	0.041	0.376	2	
30303-090	13.384	0.337	0.049	0.396	1	
30308-035	13.977	0.523	0.065	0.351	2	
30308-062	13.878	0.300	0.078	0.276	2	
30308-104	12.901	0.322	0.068	0.274	1	
30310-023	14.380	0.325	0.019	0.349	1	
30314-067	11.883	0.730	0.256	0.502	1	
30314-177	12.454	0.331	0.046	0.333	1	
30315-059	14.193	0.285	0.027	0.519	1	
30315-060	15.635	-0.066	0.067	0.396	3	
30315-076	13.783	0.438	0.096	0.251	1	
30315-093	14.134	0.397	0.049	0.326	1	
30322-007	13.131	0.320	0.135	0.148	1	
30322-009	13.860	0.363	0.011	0.332	1	
30322-066	13.823	0.409	0.063	0.294	1	
30323-036	12.968	0.354	0.020	0.349	1	
30323-047	14.322	0.326	0.070	0.273	1	
30323-048	12.121	0.322	0.029	0.302	3	
30323-088	14.618	0.278	0.126	0.204	1	
30324-024	13.129	0.398	0.039	0.481	2	
30324-045	14.556	0.295	0.041	0.333	2	
30331-126	12.775	0.339	0.068	0.779	1	
30336-049	14.048	0.623	0.102	0.479	2	
30336-067	14.372	0.443	0.046	0.314	2	
30337-097	13.224	0.559	0.100	0.381	2	
30339-002	13.904	0.330	0.060	0.347	1	
30339-019	13.778	0.295	0.072	0.329	1	

Table 2. *uvby*, La Silla. Continued...

STAR	V	$b - y$	m_1	c_1	N_{uvby}	Notes
30339-041	13.920	0.367	0.122	0.449	1	
30339-046	15.264	0.290	0.032	0.814	2	V?
30339-049	15.209	0.269	0.077	0.368	2	
30343-044	13.701	0.420	0.095	0.232	1	
30344-070	14.438	0.308	0.029	0.386	2	
30344-075	13.576	0.446	0.013	0.286	1	
30492-016	13.924	0.373	0.054	0.127	1	
30493-001	13.128	0.300	0.106	0.280	1	
30493-028	13.202	0.404	0.041	0.475	1	
31061-057	13.998	0.299	0.018	0.784	2	V?
31063-072	14.143	0.360	0.075	0.204	2	
31064-031	12.704	0.203	0.031	0.040	1	
31064-060	13.123	0.342	0.024	0.696	1	
31064-113	13.301	0.580	0.173	0.184	1	
31068-033	13.832	0.357	0.022	0.387	1	
31068-042	13.809	0.453	0.051	0.471	2	
31072-118	12.723	0.638	0.138	0.476	2	
31076-028	14.364	0.415	0.026	0.279	1	
31076-034	14.045	0.379	0.028	0.305	1	
31080-095	13.005	0.363	0.067	0.155	2	
31081-003	13.070	0.468	0.315	0.256	1	
31081-049	13.438	0.680	0.201	0.485	1	
31081-059	14.192	0.315	0.034	0.347	2	
31082-001	11.682	0.515	0.137	0.337	1	
31083-069	13.274	0.759	0.122	0.607	2	V?
31087-013	14.119	0.468	0.042	0.410	2	
31089-055	14.216	0.306	0.039	0.352	2	

Notes: V?=variable?

Table 3. Coordinates, BV photometry, reddening excesses, $(B-V)_0$'s, and Notes

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
15621-006	10:28:56.9	+23:02:29	212.2	+57.6	13.36	+0.46	+0.02	+0.02	+0.44	+0.42		
15621-024	10:22:08.3	+25:26:58	207.2	+56.6	14.64	+0.42	+0.02	+0.02	+0.40	+0.40		
15621-051	10:17:19.1	+23:03:15	210.9	+55.0	13.97	+0.45	+0.03	+0.03	+0.42	+0.28		*
15621-058	10:29:35.7	+23:24:39	211.6	+57.8	14.39	+0.31	+0.02	+0.02	+0.29	+0.23		
15621-070	10:21:56.1	+27:11:19	204.1	+56.9	12.61	+0.36	+0.03	+0.03	+0.33	+0.31		
15621-073	10:13:17.9	+24:05:06	208.8	+54.4	13.53	+0.42	+0.02	+0.02	+0.40	+0.42		
15621-077	10:12:59.6	+24:49:50	207.5	+54.5	13.87	+0.43	+0.04	+0.04	+0.39	+0.38		
15622-055	12:51:21.9	+26:55:12	298.5	+89.8	14.05	+0.40	+0.01	+0.01	+0.39	+0.33		*
15623-023	14:03:03.8	+26:36:45	035.2	+74.0	.....	.....	+0.02	+0.02	.....	+0.40		
15624-040	16:16:58.5	+46:03:49	072.2	+45.5	13.57	+0.41	+0.01	+0.01	+0.40	+0.43		
16026-006	12:16:57.5	+30:42:44	185.5	+81.7	14.35	+0.36	+0.02	+0.02	+0.34	+0.34		
16026-040	12:30:25.2	+30:54:48	172.2	+84.0	13.37	+0.40	+0.01	+0.01	+0.39	+0.40		
16026-068	12:36:39.7	+27:28:29	206.1	+86.7	10.85	+0.41	+0.02	+0.02	+0.39	+0.41		
16026-073	12:38:59.0	+30:42:45	159.4	+85.5	13.40	+0.34	+0.01	+0.01	+0.33	+0.29		
16027-003	13:07:15.2	+32:17:25	090.3	+83.8	13.79	+0.45	+0.01	+0.01	+0.44	+0.41		
16027-029	13:08:58.3	+29:16:24	063.0	+85.6	15.21	+0.36	+0.01	+0.01	+0.35	+0.34		
16027-043	13:11:56.0	+28:49:07	054.6	+85.2	14.95	+0.39	+0.01	+0.01	+0.38	+0.42		
16027-046	13:12:47.6	+28:41:39	052.5	+85.0	14.92	+0.44	+0.01	+0.01	+0.43	+0.48		
16027-049	13:12:26.9	+30:21:16	069.2	+84.4	13.40	+0.41	+0.01	+0.01	+0.40	+0.43		
16027-073	13:20:06.6	+28:03:05	042.8	+83.6	14.19	+0.48	+0.01	+0.01	+0.47	+0.47		
16033-008	13:05:56.1	+25:10:17	002.7	+86.2	13.79	+0.63	+0.02	+0.02	+0.61	+0.63		
16033-081	13:19:12.4	+22:27:57	357.9	+82.2	13.35	+0.78	+0.01	+0.01	+0.77	+0.71		
16076-006	12:48:22.7	+20:56:41	296.3	+83.8	13.52	+0.56	+0.03	+0.03	+0.53	+0.56		
16076-040	12:57:14.9	+22:33:16	319.3	+85.2	12.00	+0.40	+0.04	+0.04	+0.36	+0.40		*
16076-050	12:58:17.4	+17:55:34	313.0	+80.7	13.11	+0.56	+0.04	+0.04	+0.52	+0.51		*
16077-007	11:35:18.0	+31:00:29	195.3	+72.9	12.21	+0.33	+0.02	+0.02	+0.31	+0.38		*
16077-023	11:40:06.4	+30:47:21	195.5	+74.0	12.24	+0.37	+0.02	+0.02	+0.35	+0.34		*
16081-038	12:01:21.7	+33:17:12	180.2	+77.6	.....	.....	+0.02	+0.02	.....	+0.32		
16083-019	14:48:11.8	+48:53:52	084.8	+58.7	.....	.....	+0.02	+0.02	.....	+0.39		
16083-096	15:04:33.9	+51:06:19	085.7	+55.3	.....	.....	+0.01	+0.01	.....	+0.46		
16084-160	16:28:50.7	+54:37:03	083.5	+42.2	13.14	+0.86	+0.01	+0.01	+0.85	+0.85		
16085-050	12:37:46.7	+19:22:44	280.2	+81.6	12.15	+0.74	+0.02	+0.02	+0.72	+0.71		
16089-013	13:49:22.1	+35:44:53	071.5	+75.0	13.31	+0.75	+0.01	+0.01	+0.74	+0.72		
16089-042	13:53:38.3	+34:46:34	066.6	+74.7	14.20	+0.40	+0.02	+0.02	+0.38	+0.41		
16089-086	14:02:26.9	+34:17:41	062.5	+73.2	14.11	+0.32	+0.02	+0.02	+0.30	+0.37		
16090-038	14:30:21.3	+48:51:39	088.3	+61.1	.....	.....	+0.02	+0.02	.....	+0.13		
16468-009	09:02:40.0	+40:08:22	182.0	+41.5	.....	.....	+0.02	+0.02	.....	+0.41		
16469-075	10:15:10.1	+42:53:19	176.1	+54.7	13.42	+0.77	+0.02	+0.02	+0.75	+0.70		
16470-007	12:08:09.1	+15:29:41	259.9	+74.6	14.00	+0.75	+0.03	+0.03	+0.72	+0.66		
16470-061	12:18:44.9	+15:32:05	268.1	+76.1	14.19	+0.42	+0.02	+0.02	+0.40	+0.37		
16470-062	12:18:52.5	+15:34:38	268.1	+76.2	13.72	+0.89	+0.03	+0.03	+0.86	+0.71		*
16472-092	14:55:34.7	-00:33:15	355.2	+49.3	13.30	+0.41	+0.06	+0.06	+0.35	+0.39		
16477-038	14:40:26.3	+06:55:52	359.9	+57.2	12.71	+0.68	+0.03	+0.03	+0.65	+0.64		
16479-065	13:24:30.6	+20:27:25	353.3	+79.9	.....	.....	+0.02	+0.02	.....	+0.44		
16541-022	15:18:26.8	+08:23:07	011.6	+50.5	13.86	+0.44	+0.03	+0.03	+0.41	+0.33		
16541-052	15:24:27.2	+06:28:02	010.4	+48.2	12.60	+0.29	+0.04	+0.04	+0.25	+0.28		
16543-068	13:18:47.8	+19:14:31	342.9	+79.9	.....	.....	+0.02	+0.02	.....	+0.42		
16543-097	13:26:28.3	+21:38:42	000.3	+80.3	12.57	+0.69	+0.02	+0.02	+0.67	+0.67		
16546-075	14:25:15.5	+11:58:09	003.0	+63.3	13.15	+0.54	+0.03	+0.03	+0.51	+0.50		
16546-098	14:29:38.8	+09:21:57	000.1	+60.8	13.96	+0.40	+0.03	+0.03	+0.37	+0.37		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
16547-049	15:19:09.4	-03:02:58	358.5	+43.3	13.98	+0.50	+0.12	+0.11	+0.39	+0.36		
16548-009	16:24:31.7	+50:12:58	077.7	+43.7	.....	.....	+0.02	+0.02	.....	+0.56		
16548-070	16:40:54.5	+48:17:13	074.7	+41.3	13.69	+0.67	+0.02	+0.02	+0.65	+0.60		
16549-007	11:50:10.9	+36:23:25	173.6	+74.1	.....	.....	+0.02	+0.02	.....	+0.58		
16549-017	11:52:41.1	+33:47:29	181.6	+75.7	12.42	+0.39	+0.02	+0.02	+0.37	+0.38		
16549-043	11:59:18.1	+35:41:39	172.1	+76.0	.....	.....	+0.02	+0.02	.....	+0.60		
16550-014	13:52:22.5	+13:37:55	352.5	+70.4	12.06	+0.53	+0.03	+0.03	+0.50	+0.51		
16550-043	14:01:49.5	+14:38:09	359.2	+69.4	14.46	+0.40	+0.01	+0.01	+0.39	+0.41		
16551-118	15:24:29.3	-10:18:54	352.9	+37.3	12.81	+0.30	+0.15	+0.13	+0.17	+0.54		*
16552-042	16:51:24.8	+34:37:58	057.0	+38.7	14.64	+0.39	+0.02	+0.02	+0.37	+0.42		*
16552-086	17:00:01.7	+33:30:38	056.0	+36.8	14.60	+0.62	+0.02	+0.02	+0.60	+0.55		*
16557-012	11:12:28.1	-06:57:12	264.2	+48.3	14.04	+0.44	+0.04	+0.04	+0.40	+0.41		
16557-024	11:13:36.7	-11:12:32	267.9	+44.9	13.07	+0.53	+0.05	+0.05	+0.48	+0.46		
16557-063	11:24:02.0	-08:51:33	269.4	+48.2	14.57	+0.33	+0.04	+0.04	+0.29	+0.21		*
16557-074	11:26:11.0	-11:26:43	271.9	+46.2	12.28	+0.40	+0.04	+0.04	+0.36	+0.40		
16558-001	12:13:21.3	-07:45:04	286.8	+53.9	14.05	+0.51	+0.05	+0.05	+0.46	+0.42		
16558-021	12:18:50.1	-11:35:03	290.3	+50.5	12.51	+0.45	+0.04	+0.04	+0.41	+0.38		
16920-017	12:07:17.1	+41:39:35	152.0	+72.9	13.86	+0.76	+0.01	+0.01	+0.75	+0.75		
16927-017	09:29:11.7	+38:27:34	184.6	+46.6	.....	.....	+0.01	+0.01	.....	+0.43		
16927-063	09:40:44.0	+38:24:59	184.6	+48.8	.....	.....	+0.01	+0.01	.....	+0.43		
16928-053	12:22:28.1	+34:11:24	162.6	+80.6	13.40	+0.86	+0.01	+0.01	+0.85	+0.84		
16929-005	13:03:29.4	+33:51:06	102.6	+82.8	13.61	+0.62	+0.01	+0.01	+0.61	+0.63	*	*
16929-035	13:12:57.5	+37:49:58	101.4	+78.4	12.98	+0.39	+0.01	+0.01	+0.38	+0.38		
16934-002	13:29:46.4	+16:15:39	344.2	+76.0	12.81	+0.93	+0.03	+0.03	+0.90	+0.85		
16934-018	13:33:06.6	+15:07:09	343.9	+74.6	14.10	+0.44	+0.02	+0.02	+0.42	+0.39		
16934-060	13:42:01.2	+17:48:21	356.9	+75.1	14.09	+0.60	+0.02	+0.02	+0.58	+0.60		
16968-061	15:01:06.4	+03:42:46	001.5	+51.2	13.26	+0.43	+0.05	+0.05	+0.38	+0.34		
16972-003	13:09:06.0	+15:24:02	323.1	+77.6	14.28	+0.40	+0.02	+0.02	+0.38	+0.36		
16972-009	13:13:12.0	+15:45:21	328.0	+77.6	14.39	+0.41	+0.02	+0.02	+0.39	+0.38		
16972-013	13:16:38.9	+13:32:29	327.6	+75.2	13.62	+0.48	+0.02	+0.02	+0.46	+0.42		
16972-041	13:28:09.9	+15:27:02	340.9	+75.5	13.01	+0.41	+0.02	+0.02	+0.39	+0.40		
16986-072	12:03:57.3	+08:02:48	270.2	+67.9	13.42	+1.05	+0.01	+0.01	+1.04	+0.73		*
17136-014	08:46:06.9	+38:02:50	184.4	+38.1	13.39	+0.39	+0.03	+0.03	+0.36	+0.32		
17139-007	08:54:12.6	+29:19:16	195.7	+38.3	.....	.....	+0.03	+0.03	.....	+0.40		
17435-003	11:46:32.6	+16:13:58	245.5	+71.4	12.16	+0.39	+0.04	+0.04	+0.35	+0.33		
17435-024	11:59:08.7	+14:40:14	256.0	+72.6	.....	.....	+0.03	+0.03	.....	+0.52		
17438-020	07:46:58.0	+39:14:00	180.5	+27.0	14.07	+0.58	+0.05	+0.05	+0.53	+0.48		
17438-082	07:58:43.8	+38:27:48	181.9	+29.0	13.26	+0.39	+0.05	+0.05	+0.34	+0.23		*
17439-054	10:58:10.5	-13:51:15	265.6	+40.7	12.98	+0.64	+0.05	+0.05	+0.59	+0.48		
17439-055	10:58:14.5	-13:14:29	265.1	+41.2	11.10	+0.36	+0.04	+0.04	+0.32	+0.27		
17439-065	11:01:20.2	-13:38:40	266.2	+41.3	13.43	+0.71	+0.04	+0.04	+0.67	+0.64		
17444-032	08:24:29.5	+38:13:05	183.4	+33.9	13.52	+0.43	+0.04	+0.04	+0.39	+0.41		
17444-046	08:26:03.5	+40:46:30	180.4	+34.6	13.20	+0.47	+0.04	+0.04	+0.43	+0.47		
17444-059	08:31:10.6	+38:35:22	183.2	+35.3	13.30	+0.41	+0.04	+0.04	+0.37	+0.38		*
17448-016	08:51:21.0	+38:03:21	184.5	+39.1	.....	.....	+0.03	+0.03	.....	+0.21		*
17448-033	09:04:02.4	+41:21:21	180.4	+41.8	.....	.....	+0.01	+0.01	.....	+0.25		
17569-011	21:58:21.6	+02:54:15	061.8	-38.6	10.77	+1.52	+0.05	+0.05	+1.47	+1.50		
17570-009	00:07:08.0	+26:02:53	110.7	-35.8	13.11	+0.53	+0.03	+0.03	+0.50	+0.58		
17570-011	00:08:08.2	+25:31:35	110.8	-36.3	12.87	+0.39	+0.04	+0.04	+0.35	+0.38		
17572-057	09:23:09.9	-04:53:05	237.2	+30.4	13.61	+0.66	+0.04	+0.04	+0.62	+0.51		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
17572-067	09:24:56.6	-02:52:02	235.6	+31.9	13.37	+0.44	+0.03	+0.03	+0.41	+0.40		
17572-100	09:28:55.3	-05:21:36	238.7	+31.3	.....	.....	+0.04	+0.04	.....	+0.33		
17574-129	04:50:34.6	+09:00:52	189.7	-21.8	10.72	+0.59	+0.19	+0.16	+0.43	+0.45		
17575-163	05:05:44.3	+10:09:15	190.9	-18.0	12.61	+0.44	+0.22	+0.18	+0.26	+0.19		*
17575-168	05:05:45.3	+10:47:55	190.3	-17.7	13.39	+0.55	+0.20	+0.17	+0.38	+0.44		
17575-169	05:06:16.8	+10:58:28	190.3	-17.5	12.37	+0.42	+0.20	+0.17	+0.25	+0.18		*
17576-002	09:31:01.0	-03:04:00	236.8	+33.1	10.53	+0.45	+0.04	+0.04	+0.41	+0.41		
17576-027	09:37:30.6	-06:26:54	241.2	+32.3	11.80	+0.51	+0.03	+0.03	+0.48	+0.50		
17576-043	09:42:08.3	-06:23:49	242.0	+33.3	9.98	+0.34	+0.03	+0.03	+0.31	+0.22		*
17576-071	09:46:47.3	-07:05:29	243.5	+33.7	12.26	+0.43	+0.04	+0.04	+0.39	+0.41		
17577-010	09:30:54.7	-10:49:42	244.0	+28.3	.....	.....	+0.04	+0.04	.....	+0.21		*
17577-012	09:32:59.4	-12:09:49	245.5	+27.9	10.71	+0.09	+0.04	+0.04	+0.05	-0.02		
17578-056	21:41:08.4	+14:11:48	068.8	-28.1	9.92	+0.38	+0.11	+0.11	+0.27	+0.15		*
17579-012	00:47:59.3	+03:37:46	121.3	-59.2	12.28	+0.10	+0.02	+0.02	+0.08	+0.13		*
17581-075	09:21:23.7	-07:52:45	239.7	+28.3	12.05	+0.48	+0.03	+0.03	+0.45	+0.32		*
17581-077	09:23:42.3	-07:57:19	240.2	+28.7	.....	.....	+0.04	+0.04	.....	+0.35		
17581-078	09:23:00.9	-09:12:30	241.2	+27.8	10.68	+0.34	+0.03	+0.03	+0.31	+0.18		*
17581-113	09:22:36.2	-10:45:35	242.5	+26.8	12.93	+0.56	+0.05	+0.05	+0.51	+0.46		*
17582-050	10:27:33.0	-13:19:20	257.6	+36.6	11.63	+0.34	+0.07	+0.07	+0.27	+0.24		
17582-096	10:36:16.5	-14:19:40	260.4	+37.1	13.74	+0.47	+0.06	+0.06	+0.41	+0.38	*	*
17582-113	10:38:36.9	-14:05:58	260.8	+37.7	13.03	+0.48	+0.05	+0.05	+0.43	+0.42		
17583-067	21:41:06.5	+27:20:05	079.0	-18.9	12.56	+0.39	+0.11	+0.11	+0.28	+0.16		*
17583-100	21:42:27.8	+26:40:34	078.8	-19.6	12.37	+0.51	+0.10	+0.10	+0.41	+0.44		
17585-132	04:32:12.8	+16:18:55	180.5	-21.1	12.38	+0.69	+0.54	+0.39	+0.30	+0.28		*
17586-014	08:51:09.5	-11:51:26	238.5	+19.9	12.03	+0.66	+0.04	+0.04	+0.62	+0.55		*
17586-048	08:58:17.8	-07:50:43	236.0	+23.7	11.90	+0.39	+0.03	+0.03	+0.36	+0.34		
22166-024	01:03:55.0	-12:41:46	135.0	-75.3	13.86	+0.41	+0.03	+0.03	+0.38	+0.38		
22166-030	01:05:28.0	-11:57:31	135.9	-74.5	13.59	+0.44	+0.03	+0.03	+0.41	+0.39		
22169-002	04:00:37.8	-15:09:21	207.6	-44.6	13.32	+0.52	+0.05	+0.05	+0.47	+0.43	*	*
22169-008	04:03:36.1	-12:49:41	205.1	-43.0	14.99	+0.43	+0.06	+0.06	+0.37	+0.40		
22169-019	04:14:00.0	-16:05:43	210.5	-42.0	13.76	+0.39	+0.03	+0.03	+0.36	+0.38		
22169-035	04:12:13.8	-12:05:07	205.4	-40.7	12.88	+0.93	+0.04	+0.04	+0.89	+0.84		
22170-021	00:42:25.8	-11:36:59	114.7	-74.3	14.16	+0.40	+0.03	+0.03	+0.37	+0.44		
22171-009	01:57:51.2	-08:46:33	166.6	-65.8	13.39	+0.41	+0.03	+0.03	+0.38	+0.37		
22171-016	02:01:22.6	-11:41:18	173.1	-67.5	13.09	+0.39	+0.02	+0.02	+0.37	+0.40		
22171-031	02:09:24.3	-10:34:15	174.6	-65.3	13.93	+0.39	+0.02	+0.02	+0.37	+0.35		
22171-034	02:10:02.5	-10:00:18	173.9	-64.8	13.29	+0.41	+0.03	+0.03	+0.38	+0.42		
22171-037	02:08:00.6	-09:03:42	171.6	-64.4	14.93	+0.35	+0.02	+0.02	+0.33	+0.40		
22172-002	03:14:20.6	-10:35:10	193.7	-52.6	12.74	+0.81	+0.07	+0.07	+0.74	+0.74		
22172-019	03:22:51.6	-11:23:53	196.5	-51.2	14.29	+0.42	+0.08	+0.08	+0.34	+0.37		
22172-033	03:28:30.7	-09:26:16	195.0	-49.0	13.81	+0.56	+0.07	+0.07	+0.49	+0.40		
22172-035	03:31:46.1	-09:19:44	195.5	-48.2	14.30	+0.43	+0.04	+0.04	+0.39	+0.35		
22173-002	03:59:13.1	-20:42:28	214.9	-46.9	13.47	+0.40	+0.04	+0.04	+0.36	+0.41		
22173-014	04:04:39.3	-17:21:11	211.0	-44.5	13.73	+0.37	+0.03	+0.03	+0.34	+0.36		
22173-015	04:05:47.8	-17:21:05	211.1	-44.3	13.22	+0.42	+0.02	+0.02	+0.40	+0.44		
22174-007	01:14:06.7	-11:02:32	142.4	-73.1	12.41	+0.69	+0.03	+0.03	+0.66	+0.63		
22174-020	01:20:27.1	-08:47:14	144.8	-70.4	15.06	+0.40	+0.04	+0.04	+0.36	+0.38		
22175-013	02:19:32.1	-07:32:20	173.8	-61.4	12.95	+0.38	+0.03	+0.03	+0.35	+0.38		
22176-018	03:41:34.9	-11:42:56	200.3	-47.3	13.52	+0.59	+0.07	+0.07	+0.52	+0.43		*
22177-009	04:07:40.5	-25:02:40	221.7	-46.2	14.27	+0.40	+0.04	+0.04	+0.36	+0.38		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
22177-010	04:10:00.4	-25:44:42	222.9	-45.8	14.31	+0.40	+0.05	+0.05	+0.35	+0.39		
22180-005	01:34:27.7	-10:16:21	156.0	-70.3	14.02	+0.50	+0.03	+0.03	+0.47	+0.50		
22180-014	01:34:02.3	-12:41:55	159.7	-72.5	13.58	+0.43	+0.02	+0.02	+0.41	+0.43		
22180-034	01:36:30.9	-09:23:17	156.0	-69.3	14.31	+0.42	+0.03	+0.03	+0.39	+0.42		
22180-036	01:33:46.1	-09:07:24	154.0	-69.4	14.95	+0.42	+0.03	+0.03	+0.39	+0.57		*
22182-022	04:16:58.1	-31:44:38	231.7	-45.4	13.02	+0.40	+0.04	+0.04	+0.36	+0.41		
22182-033	04:23:10.4	-30:37:13	230.5	-43.9	14.67	+0.44	+0.03	+0.03	+0.41	+0.43		
22182-047	04:22:30.0	-27:34:51	226.3	-43.5	13.24	+0.48	+0.05	+0.05	+0.43	+0.46		
22185-006	03:18:11.0	-15:31:38	201.7	-54.1	14.21	+0.45	+0.06	+0.06	+0.39	+0.40		
22185-007	03:17:35.8	-15:17:22	201.3	-54.1	13.32	+0.72	+0.06	+0.06	+0.66	+0.65		
22185-025	03:31:54.7	-16:21:50	205.2	-51.4	14.18	+0.42	+0.07	+0.07	+0.35	+0.33		
22186-002	04:13:57.0	-36:46:26	238.9	-46.5	13.22	+0.45	+0.01	+0.01	+0.44	+0.49		
22186-005	04:13:08.9	-35:50:40	237.5	-46.6	12.96	+0.37	+0.01	+0.01	+0.36	+0.39		
22186-017	04:16:21.9	-34:18:02	235.3	-45.8	13.53	+0.43	+0.02	+0.02	+0.41	+0.40		
22186-020	04:21:15.2	-35:18:18	236.9	-44.9	13.24	+0.43	+0.03	+0.03	+0.40	+0.41		*
22186-023	04:19:45.3	-36:51:37	239.1	-45.3	15.87	+1.35	+0.02	+0.02	+1.33	+0.67		*
22186-025	04:24:32.6	-37:08:59	239.5	-44.4	14.23	+0.74	+0.03	+0.03	+0.71	+0.69		
22188-006	00:58:34.6	-37:20:49	295.0	-79.7	11.96	+0.41	+0.01	+0.01	+0.40	+0.36		
22188-033	00:51:25.9	-38:12:18	302.9	-78.9	13.20	+0.42	+0.01	+0.01	+0.41	+0.43		
22188-048	00:46:36.0	-37:39:31	308.2	-79.4	11.94	+0.79	+0.01	+0.01	+0.78	+0.77		
22189-009	02:41:42.2	-13:28:15	190.5	-60.9	13.90	+0.80	+0.02	+0.02	+0.78	+0.70		*
22189-018	02:44:12.6	-15:47:24	195.3	-61.5	15.33	+0.36	+0.02	+0.02	+0.34	+0.33		
22189-036	02:49:44.3	-13:07:39	192.0	-59.0	14.38	+0.43	+0.03	+0.03	+0.40	+0.43		
22190-007	03:52:21.7	-16:24:30	208.2	-46.9	14.20	+0.46	+0.03	+0.03	+0.43	+0.45		
22191-019	04:37:40.2	-41:13:29	245.3	-42.0	12.98	+0.42	+0.03	+0.03	+0.39	+0.39		
22191-024	04:42:01.2	-39:37:03	243.2	-41.1	13.57	+0.69	+0.03	+0.03	+0.66	+0.71		
22191-029	04:47:42.2	-39:07:26	242.6	-40.0	14.05	+0.41	+0.02	+0.02	+0.39	+0.40		
22871-084	14:47:01.7	-18:03:44	338.0	+36.8	.....	.....	+0.09	+0.09	.....	-0.22		
22871-107	14:50:25.3	-20:21:10	337.3	+34.5	14.02	+0.47	+0.11	+0.11	+0.36	+0.36		
22872-010	16:17:47.8	-04:40:41	008.5	+30.9	14.62	+0.52	+0.20	+0.17	+0.35	+0.34		*
22872-036	16:22:44.8	-02:23:57	011.5	+31.2	14.88	+0.51	+0.17	+0.15	+0.36	+0.42		
22872-079	16:26:11.3	-01:46:43	012.7	+30.8	15.00	+0.49	+0.13	+0.12	+0.37	+0.40		
22872-102	16:29:20.7	-03:04:54	011.9	+29.5	13.65	+0.59	+0.30	+0.23	+0.36	+0.40		*
22873-055	19:53:49.6	-59:40:00	337.5	-31.0	12.65	+0.93	+0.08	+0.08	+0.85	+0.83		
22873-072	19:52:05.5	-61:37:36	335.2	-30.8	14.64	+0.41	+0.06	+0.06	+0.35	+0.32		
22873-128	20:07:03.9	-58:34:57	338.8	-32.6	13.03	+0.69	+0.04	+0.04	+0.65	+0.63		
22873-139	20:05:55.2	-59:17:11	337.9	-32.5	13.84	+0.37	+0.04	+0.04	+0.33	+0.33		
22873-166	20:19:21.8	-61:30:20	335.2	-34.0	11.82	+0.99	+0.04	+0.04	+0.95	+0.87		
22874-012	14:30:21.0	-25:29:18	329.4	+32.2	15.13	+0.10	+0.09	+0.09	+0.01	-0.07		*
22875-029	22:29:24.9	-38:57:48	002.0	-58.2	13.68	+0.40	+0.01	+0.01	+0.39	+0.39		
22876-029	00:01:57.6	-36:40:46	347.5	-75.8	14.31	+0.32	+0.01	+0.01	+0.31	+0.38		*
22876-032	00:07:37.1	-35:31:15	348.3	-77.4	12.84	+0.39	+0.01	+0.01	+0.38	+0.42		
22876-034	00:06:20.7	-35:17:14	349.9	-77.4	13.73	+0.40	+0.01	+0.01	+0.39	+0.36		
22876-039	00:10:00.5	-34:37:01	350.3	-78.4	.....	.....	+0.01	+0.01	.....	+0.31		
22876-042	00:12:00.1	-33:59:49	351.5	-79.1	13.12	+0.36	+0.01	+0.01	+0.35	+0.37		
22877-011	13:14:40.0	-09:35:51	312.4	+52.8	13.86	+0.60	+0.04	+0.04	+0.56	+0.56		
22877-013	13:11:23.8	-09:23:42	311.2	+53.2	14.64	+0.51	+0.04	+0.04	+0.47	+0.48		
22877-015	13:13:45.2	-09:15:44	312.2	+53.2	13.23	+0.40	+0.04	+0.04	+0.36	+0.43		
22877-051	13:23:30.7	-12:35:12	315.0	+49.5	.....	.....	+0.05	+0.05	.....	+0.33		
22878-002	16:33:48.9	+07:53:39	023.7	+34.1	14.36	+0.45	+0.07	+0.07	+0.38	+0.42		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
22878-003	16:33:45.2	+07:55:22	023.7	+34.1	14.42	+0.46	+0.07	+0.07	+0.39	+0.41		
22878-013	16:31:56.3	+09:08:54	024.8	+35.1	13.27	+0.47	+0.08	+0.08	+0.39	+0.37		
22878-027	16:37:35.6	+10:22:08	026.9	+34.4	14.41	+0.44	+0.07	+0.07	+0.37	+0.41		
22879-012	20:37:14.0	-41:02:36	000.4	-36.8	14.72	+0.39	+0.04	+0.04	+0.35	+0.35		
22879-029	20:38:51.7	-38:36:46	003.4	-36.8	14.45	+0.44	+0.04	+0.04	+0.40	+0.38	*	*
22879-051	20:42:36.3	-39:18:28	002.7	-37.6	13.89	+0.39	+0.04	+0.04	+0.35	+0.33		
22879-092	20:46:50.2	-39:40:08	002.3	-38.4	14.73	+0.40	+0.04	+0.04	+0.36	+0.36		
22880-013	20:37:28.2	-20:14:31	025.0	-32.0	13.68	+0.39	+0.04	+0.04	+0.35	+0.36		
22880-058	20:43:55.8	-21:36:32	024.1	-33.9	14.54	+0.37	+0.05	+0.05	+0.32	+0.38		
22880-067	20:49:07.7	-21:34:54	024.6	-35.0	15.08	+0.51	+0.08	+0.08	+0.43	+0.48		
22880-109	20:52:13.5	-18:46:26	028.1	-34.8	14.62	+0.49	+0.07	+0.07	+0.42	+0.42		
22881-032	22:03:00.2	-41:14:26	359.5	-52.9	15.23	+0.36	+0.02	+0.02	+0.34	+0.29		
22881-036	22:07:58.3	-40:44:15	000.1	-53.9	13.93	+0.46	+0.01	+0.01	+0.45	+0.46	*	*
22881-039	22:09:35.4	-40:25:54	000.6	-54.2	15.14	+0.39	+0.01	+0.01	+0.38	+0.35		*
22881-070	22:16:37.1	-40:44:06	359.6	-55.5	14.39	+0.37	+0.01	+0.01	+0.36	+0.31		
22882-008	00:21:26.3	-28:50:58	016.6	-83.2	13.97	+0.38	+0.02	+0.02	+0.36	+0.37		
22882-012	00:30:22.5	-27:35:27	026.1	-85.3	15.26	+0.38	+0.01	+0.01	+0.37	+0.39		
22882-027	00:38:09.7	-31:47:54	333.9	-84.5	15.11	+0.42	+0.01	+0.01	+0.41	+0.37		
22882-030	00:30:19.9	-30:20:53	356.8	-84.4	14.83	+0.38	+0.02	+0.02	+0.36	+0.38		
22883-004	14:14:19.6	+09:31:47	354.9	+63.7	14.22	+0.43	+0.02	+0.02	+0.41	+0.40		
22883-020	14:16:44.0	+09:09:34	355.2	+63.0	14.58	+0.40	+0.03	+0.03	+0.37	+0.39		
22884-006	15:35:13.9	-11:40:54	354.1	+34.5	14.77	+0.03	+0.15	+0.13	-0.10	-0.16		*
22884-033	15:35:37.2	-10:15:08	355.4	+35.4	14.52	+0.50	+0.17	+0.15	+0.35	+0.36		
22884-108	15:49:57.1	-09:14:11	359.2	+33.5	14.24	+0.50	+0.15	+0.13	+0.37	+0.36		
22885-034	20:15:51.2	-37:33:23	003.8	-32.1	13.66	+0.40	+0.06	+0.06	+0.34	+0.34		
22885-096	20:20:51.0	-39:53:29	001.3	-33.5	13.33	+0.69	+0.06	+0.06	+0.63	+0.65		
22885-143	20:27:42.0	-39:23:39	002.1	-34.7	13.93	+0.75	+0.05	+0.05	+0.70	+0.71		
22886-012	22:13:25.7	-08:43:44	051.6	-48.4	14.52	+0.47	+0.05	+0.05	+0.42	+0.43		
22887-005	22:34:30.8	-10:26:32	053.7	-53.7	.....	.....	+0.05	+0.05	.....	+0.41		
22887-048	22:46:44.6	-11:08:43	055.5	-56.6	.....	.....	+0.05	+0.05	.....	+0.31	*	*
22888-014	23:04:15.1	-33:29:43	011.0	-66.1	14.44	+0.40	+0.02	+0.02	+0.38	+0.38		
22888-031	23:11:32.1	-35:26:44	005.4	-67.2	14.90	+0.41	+0.01	+0.01	+0.40	+0.42		
22889-050	13:45:30.0	-09:47:10	324.3	+50.8	.....	.....	+0.06	+0.06	.....	+0.38		
22890-011	15:13:20.9	+02:15:00	002.8	+47.9	14.61	+0.38	+0.04	+0.04	+0.34	+0.34		
22890-064	15:17:34.0	+02:45:30	004.4	+47.4	14.70	+0.39	+0.04	+0.04	+0.35	+0.41		
22890-074	15:24:02.9	+01:34:19	004.5	+45.4	13.95	+0.09	+0.06	+0.06	+0.03	+0.05		
22891-047	19:07:48.5	-57:49:46	338.7	-24.8	.....	.....	+0.05	+0.05	.....	+0.73		
22891-171	19:28:04.1	-59:24:24	337.5	-27.7	14.29	+0.86	+0.07	+0.07	+0.79	+0.65	*	*
22891-200	19:35:19.2	-61:42:25	335.0	-28.8	13.93	+0.86	+0.08	+0.08	+0.78	+0.77		
22891-209	19:42:02.2	-61:03:46	335.8	-29.6	12.17	+0.82	+0.07	+0.07	+0.75	+0.78		
22892-025	22:07:42.9	-15:15:02	041.8	-50.2	14.03	+0.39	+0.03	+0.03	+0.36	+0.34		
22892-041	22:09:01.5	-12:47:54	045.4	-49.5	14.33	+0.40	+0.04	+0.04	+0.36	+0.39		
22893-005	22:53:50.9	-09:59:15	059.0	-57.4	14.22	+0.53	+0.04	+0.04	+0.49	+0.47		
22893-015	23:03:46.3	-11:47:15	058.9	-60.5	14.80	+0.44	+0.04	+0.04	+0.40	+0.41		
22893-030	23:02:05.8	-07:58:48	064.3	-57.8	14.21	+0.46	+0.04	+0.04	+0.42	+0.41		
22894-019	23:39:18.9	+00:03:42	087.5	-57.8	13.92	+0.43	+0.03	+0.03	+0.40	+0.40		
22894-023	23:37:18.4	-02:08:26	084.4	-59.3	13.75	+0.40	+0.03	+0.03	+0.37	+0.38		
22894-049	23:49:52.5	-01:57:50	090.0	-60.8	14.46	+0.45	+0.03	+0.03	+0.42	+0.45		
22898-023	21:00:06.3	-17:48:42	030.0	-36.2	14.53	+0.44	+0.06	+0.06	+0.38	+0.39		
22898-027	21:05:44.9	-18:36:53	029.7	-37.7	12.76	+0.50	+0.07	+0.07	+0.43	+0.45	*	*

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
22898-043	21:10:36.8	-21:44:55	026.3	-39.8	14.06	+0.43	+0.05	+0.05	+0.38	+0.41		
22898-047	21:05:59.5	-21:06:53	026.7	-38.6	14.24	+0.56	+0.06	+0.06	+0.50	+0.50		
22936-242	18:57:21.9	-33:41:45	002.7	-15.8	14.11	+0.47	+0.08	+0.08	+0.39	+0.38		
22937-087	21:18:50.6	-41:30:46	000.2	-44.6	14.88	+0.16	+0.04	+0.04	+0.12	+0.13		
22939-272	19:39:01.7	-28:19:22	011.4	-22.2	13.44	+0.56	+0.12	+0.11	+0.45	+0.47		
22941-015	23:32:31.3	-33:53:21	006.4	-71.7	.....	.....	+0.02	+0.02	.....	+0.36		
22941-027	23:34:58.0	-36:52:09	357.1	-71.1	14.05	+0.35	+0.02	+0.02	+0.33	+0.34		
22942-024	00:59:55.2	-23:30:36	151.3	-85.9	14.16	+0.40	+0.02	+0.02	+0.38	+0.34		
22943-059	20:19:00.6	-43:17:24	357.2	-33.7	.....	.....	+0.04	+0.04	.....	+0.33		
22943-095	20:27:29.9	-46:50:57	353.0	-35.5	.....	.....	+0.03	+0.03	.....	+0.36		
22943-132	20:22:50.7	-43:13:42	357.3	-34.3	.....	.....	+0.04	+0.04	.....	+0.46		
22943-137	20:26:29.1	-43:00:49	357.7	-35.0	.....	.....	+0.04	+0.04	.....	+0.41		
22943-201	20:36:28.1	-43:49:29	356.9	-36.9	.....	.....	+0.04	+0.04	.....	+0.36	*	*
22944-011	21:41:26.3	-15:12:47	038.1	-44.4	12.00	+0.41	+0.06	+0.06	+0.35	+0.38		
22944-014	21:41:12.2	-14:33:27	038.9	-44.1	14.18	+0.43	+0.06	+0.06	+0.37	+0.44		
22944-061	21:50:18.3	-13:45:24	041.2	-45.8	14.35	+0.43	+0.05	+0.05	+0.38	+0.47		
22945-017	23:20:55.4	-63:15:43	318.9	-51.0	14.43	+0.39	+0.02	+0.02	+0.37	+0.33	*	*
22945-063	00:02:36.3	-65:45:24	310.8	-50.6	14.53	+0.44	+0.02	+0.02	+0.42	+0.47		
22946-011	01:19:11.4	-19:23:57	163.9	-80.0	13.95	+0.33	+0.01	+0.01	+0.32	+0.34		
22946-014	01:24:05.4	-17:51:22	163.7	-78.1	14.02	+0.39	+0.02	+0.02	+0.37	+0.39		
22947-114	19:11:02.1	-50:04:46	347.1	-23.5	13.92	+0.58	+0.08	+0.08	+0.50	+0.48		
22947-302	19:30:37.1	-49:12:20	348.9	-26.4	13.95	+0.76	+0.05	+0.05	+0.71	+0.67		
22948-027	21:37:45.4	-39:27:20	003.0	-48.2	12.66	+1.13	+0.03	+0.03	+1.10	+0.94	*	*
22948-043	21:40:16.1	-41:58:53	359.2	-48.5	13.42	+0.01	+0.02	+0.02	-0.01	-0.05		
22948-093	21:50:31.6	-41:07:51	000.2	-50.5	15.18	+0.36	+0.01	+0.01	+0.35	+0.38		
22948-104	21:51:45.6	-37:52:30	005.3	-51.0	13.96	+0.59	+0.02	+0.02	+0.57	+0.56	*	*
22949-007	23:15:56.5	-04:39:42	073.3	-58.0	13.67	+0.43	+0.04	+0.04	+0.39	+0.40		
22949-008	23:16:58.5	-03:20:46	075.3	-57.2	14.17	+0.49	+0.04	+0.04	+0.45	+0.40	*	*
22949-029	23:22:04.2	-03:50:52	076.5	-58.4	14.63	+0.47	+0.05	+0.05	+0.42	+0.43		
22949-030	23:21:22.7	-03:45:52	076.4	-58.2	13.85	+0.42	+0.04	+0.04	+0.38	+0.39		
22949-037	23:26:29.8	-02:39:57	079.6	-58.2	14.36	+0.79	+0.05	+0.05	+0.74	+0.75		
22949-048	23:26:07.4	-05:50:08	075.5	-60.6	13.67	+0.84	+0.04	+0.04	+0.80	+0.71		
22949-052	23:27:45.5	-06:47:05	074.8	-61.6	13.85	+0.39	+0.03	+0.03	+0.36	+0.39		
22950-046	20:21:28.3	-13:16:36	030.7	-25.9	14.22	.....	+0.07	+0.07	.....	+0.81		
22950-063	20:21:33.7	-15:02:03	028.9	-26.6	14.22	+0.72	+0.07	+0.07	+0.65	+0.69		
22950-078	20:24:57.7	-16:29:58	027.8	-27.9	14.62	+0.41	+0.06	+0.06	+0.35	+0.37		
22950-096	20:28:09.5	-15:42:21	029.0	-28.3	13.90	+0.46	+0.07	+0.07	+0.39	+0.41		
22950-153	20:32:34.6	-15:47:58	029.3	-29.3	13.74	+0.56	+0.06	+0.06	+0.50	+0.49		
22950-173	20:35:31.2	-15:53:30	029.5	-30.0	14.04	+0.41	+0.05	+0.05	+0.36	+0.36		
22951-060	21:51:20.9	-44:42:53	354.6	-50.2	.....	.....	+0.01	+0.01	.....	+0.01		
22952-004	23:30:27.6	-04:26:41	079.0	-60.2	13.49	+0.42	+0.05	+0.05	+0.37	+0.36		
22952-011	23:37:18.4	-02:08:27	084.4	-59.3	13.75	+0.40	+0.03	+0.03	+0.37	+0.37		
22952-015	23:37:28.5	-05:47:56	080.1	-62.3	13.27	+0.81	+0.03	+0.03	+0.78	+0.71		
22953-037	01:25:06.8	-59:15:58	295.0	-57.3	13.64	+0.37	+0.03	+0.03	+0.34	+0.33		
22954-004	02:38:15.0	-05:43:19	177.6	-56.8	14.27	+0.42	+0.03	+0.03	+0.39	+0.37		
22955-032	20:24:52.8	-24:49:58	018.8	-30.8	.....	.....	+0.06	+0.06	.....	+0.53		
22955-054	20:25:32.5	-23:45:46	020.0	-30.6	14.87	-0.02	+0.09	+0.09	-0.11	-0.10		
22955-117	20:30:19.7	-24:28:32	019.6	-31.8	14.40	+0.44	+0.07	+0.07	+0.37	+0.38		
22955-174	20:42:04.9	-23:49:13	021.4	-34.2	14.38	+0.50	+0.05	+0.05	+0.45	+0.47		
22956-017	21:42:39.4	-64:33:33	328.1	-42.2	14.29	+0.16	+0.05	+0.05	+0.11	+0.12		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
22957-019	23:57:31.2	-06:57:04	088.1	-66.1	13.71	+0.41	+0.03	+0.03	+0.38	+0.35		
22957-022	00:01:45.4	-05:49:45	091.7	-65.6	13.34	+0.61	+0.03	+0.03	+0.58	+0.63		
22957-024	23:58:34.5	-04:33:19	091.4	-64.1	14.30	+0.38	+0.03	+0.03	+0.35	+0.35		
22958-037	01:58:39.9	-57:03:22	285.8	-57.8	.....	.....	+0.02	+0.02	.....	+0.51		
22958-041	02:01:44.7	-56:47:35	284.9	-57.8	.....	.....	+0.02	+0.02	.....	+0.39		
22958-042	02:01:07.5	-57:17:06	285.4	-57.4	14.52	+0.48	+0.03	+0.03	+0.45	+0.44	*	*
22958-052	02:12:47.9	-56:29:09	282.2	-57.2	.....	.....	+0.02	+0.02	.....	+0.35		
22958-065	02:02:53.5	-53:38:38	281.3	-60.4	.....	.....	+0.02	+0.02	.....	+0.44		
22958-074	02:10:33.8	-53:22:43	279.2	-59.9	.....	.....	+0.03	+0.03	.....	+0.39		
22959-231	19:15:21.0	-64:09:43	332.0	-26.8	.....	.....	+0.03	+0.03	.....	+0.40		
22960-053	22:16:17.0	-43:54:21	354.3	-54.7	14.83	+0.76	+0.01	+0.01	+0.75	+0.66	*	*
22960-060	22:22:04.2	-42:08:08	356.8	-56.2	.....	.....	+0.02	+0.02	.....	+0.33		
22961-002	23:57:22.9	-31:57:06	007.4	-77.3	.....	.....	+0.01	+0.01	.....	+0.40		
22961-021	00:03:06.3	-29:52:36	015.6	-79.0	13.76	+0.43	+0.02	+0.02	+0.41	+0.42		
22961-023	00:05:32.2	-32:16:39	002.8	-78.8	12.01	+0.40	+0.01	+0.01	+0.39	+0.35		
22961-054	00:15:27.2	-29:55:21	011.3	-81.6	14.62	+0.44	+0.01	+0.01	+0.43	+0.42		
22962-021	01:49:06.3	-03:50:53	156.0	-63.0	13.46	+0.50	+0.02	+0.02	+0.48	+0.38		
22963-004	02:56:46.1	-04:51:27	181.8	-52.8	14.98	+0.53	+0.05	+0.05	+0.48	+0.46		
22964-176	20:02:07.2	-40:21:26	360.0	-30.1	15.33	+0.44	+0.08	+0.08	+0.36	+0.38		
22964-183	20:01:12.7	-40:49:10	359.4	-30.0	14.48	+0.43	+0.08	+0.08	+0.35	+0.35		
22964-214	20:05:49.9	-39:27:40	001.2	-30.6	13.66	+0.40	+0.09	+0.09	+0.31	+0.34		
22965-029	21:59:32.0	-03:36:36	055.1	-42.7	13.80	+0.60	+0.08	+0.08	+0.52	+0.48		
22965-035	21:59:29.4	-06:27:47	051.8	-44.3	.....	.....	+0.03	+0.03	.....	+0.36		
22965-054	22:06:30.0	-02:32:39	057.6	-43.5	15.10	+0.59	+0.15	+0.13	+0.46	+0.42		*
22965-075	22:11:57.7	-06:52:29	053.7	-47.1	.....	.....	+0.07	+0.07	.....	+0.37		
22966-011	23:35:06.6	-30:22:53	017.4	-73.0	14.55	+0.42	+0.01	+0.01	+0.41	+0.41		
22966-019	23:40:37.3	-28:21:53	024.3	-74.3	.....	.....	+0.02	+0.02	.....	+0.43		
22966-048	23:46:44.4	-27:44:12	026.8	-75.6	.....	.....	+0.02	+0.02	.....	+0.32		
22966-057	23:48:57.8	-29:39:20	018.8	-76.0	14.31	+0.60	+0.02	+0.02	+0.58	+0.52		
22967-019	01:19:04.4	-04:16:19	140.2	-66.2	14.26	+0.35	+0.04	+0.04	+0.31	+0.26		
22968-001	02:57:50.8	-56:51:05	274.7	-52.8	14.74	+0.39	+0.02	+0.02	+0.37	+0.41		
22968-014	03:06:29.2	-54:30:32	270.3	-53.2	13.68	+0.76	+0.01	+0.01	+0.75	+0.69		
22968-026	03:20:48.7	-55:38:22	270.1	-50.9	14.24	+0.43	+0.03	+0.03	+0.40	+0.35		
22968-029	03:16:27.6	-55:05:02	269.8	-51.7	14.29	+0.41	+0.02	+0.02	+0.39	+0.44		
29491-053	22:36:56.0	-28:31:08	022.3	-60.3	12.90	+0.81	+0.02	+0.02	+0.79	+0.80		
29491-069	22:31:02.4	-32:38:31	014.0	-59.2	13.07	+0.60	+0.01	+0.01	+0.59	+0.59		
29491-076	22:32:05.0	-29:47:48	019.6	-59.4	12.62	+0.44	+0.02	+0.02	+0.42	+0.38		
29491-084	22:28:49.5	-28:57:03	021.1	-58.6	13.48	+0.38	+0.01	+0.01	+0.37	+0.34		
29491-100	22:27:09.1	-28:54:12	021.2	-58.2	13.67	+0.45	+0.01	+0.01	+0.44	+0.47		
29493-023	21:47:30.2	-27:55:09	020.8	-49.5	14.59	+0.38	+0.03	+0.03	+0.35	+0.34		
29493-050	21:49:26.5	-29:45:22	018.1	-50.2	14.39	+0.38	+0.03	+0.03	+0.35	+0.34		
29493-062	21:52:31.0	-28:09:37	020.7	-50.6	13.17	+0.46	+0.03	+0.03	+0.43	+0.45		
29493-094	21:57:27.1	-30:08:02	017.8	-51.9	14.12	+0.38	+0.02	+0.02	+0.36	+0.35		
29494-020	23:15:51.3	-27:50:32	025.5	-68.0	14.26	+0.47	+0.04	+0.04	+0.43	+0.42	*	*
29495-005	21:32:49.1	-27:34:06	020.4	-46.2	14.32	+0.41	+0.04	+0.04	+0.37	+0.38		
29495-041	21:36:33.3	-28:18:48	019.6	-47.2	13.34	+0.81	+0.04	+0.04	+0.77	+0.69		
29497-026	00:31:12.9	-27:12:51	030.7	-85.5	.....	.....	+0.01	+0.01	.....	+0.05		
29497-030	00:40:47.9	-24:07:31	083.7	-86.2	12.66	+0.30	+0.01	+0.01	+0.29	+0.26		
29498-043	21:03:51.8	-29:42:50	015.8	-40.4	13.72	+1.08	+0.10	+0.10	+0.98	+0.89	*	*
29499-003	23:39:43.0	-26:58:52	029.4	-74.0	14.29	+0.37	+0.02	+0.02	+0.35	+0.37		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
29499-058	23:52:15.8	-25:58:20	034.6	-76.7	13.76	+0.39	+0.02	+0.02	+0.37	+0.40		
29499-060	23:53:40.2	-26:58:44	030.3	-77.1	13.03	+0.37	+0.02	+0.02	+0.35	+0.38		
29499-065	23:56:23.5	-25:18:55	038.2	-77.5	15.24	+0.38	+0.02	+0.02	+0.36	+0.40		
29501-051	21:14:40.6	-37:24:53	005.9	-43.7	14.01	+0.52	+0.04	+0.04	+0.48	+0.46		
29502-092	22:22:35.9	-01:38:24	062.1	-46.2	11.87	+0.77	+0.10	+0.10	+0.67	+0.66	*	*
29503-017	00:07:44.8	-23:07:03	052.6	-79.3	.....	.....	+0.02	+0.02	.....	+0.39		
29503-026	00:08:40.5	-26:07:05	036.5	-80.4	.....	.....	+0.02	+0.02	.....	+0.39		
29504-006	01:32:04.7	-36:22:46	262.5	-77.4	14.49	+0.38	+0.02	+0.02	+0.36	+0.36		
29504-018	01:32:54.8	-32:55:25	248.3	-79.3	13.69	+0.38	+0.02	+0.02	+0.36	+0.34		
29505-013	03:35:01.3	-44:54:10	252.6	-53.0	14.77	+0.51	+0.01	+0.01	+0.50	+0.49		
29506-007	21:20:28.6	-20:46:24	028.5	-41.7	14.18	+0.38	+0.04	+0.04	+0.34	+0.32		
29506-090	21:30:28.9	-22:10:40	027.6	-44.4	14.33	+0.40	+0.05	+0.05	+0.35	+0.34		
29509-027	00:50:15.5	-30:59:58	306.7	-86.1	12.44	+0.31	+0.02	+0.02	+0.29	+0.24		
29509-032	00:53:39.7	-29:34:14	291.7	-87.5	13.62	+0.38	+0.02	+0.02	+0.36	+0.31		
29509-047	01:00:05.4	-32:10:22	283.0	-84.6	.....	.....	+0.02	+0.02	.....	+0.32		
29510-054	02:21:45.6	-22:35:13	205.4	-69.0	14.18	+0.42	+0.02	+0.02	+0.40	+0.42		
29512-006	22:13:24.2	-09:34:20	050.5	-48.8	14.44	+0.47	+0.05	+0.05	+0.42	+0.38		
29512-013	22:12:02.9	-08:45:46	051.3	-48.1	13.65	+0.24	+0.05	+0.05	+0.19	+0.32		*
29512-015	22:13:25.7	-08:43:45	051.6	-48.4	14.52	+0.47	+0.05	+0.05	+0.42	+0.38		
29512-030	22:13:51.8	-10:47:02	049.0	-49.5	.....	.....	+0.04	+0.04	.....	+0.36		
29512-043	22:20:02.6	-11:43:11	048.9	-51.3	.....	.....	+0.04	+0.04	.....	+0.41		
29512-076	22:27:42.9	-11:21:22	050.9	-52.8	.....	.....	+0.04	+0.04	.....	+0.41		
29512-081	22:27:57.4	-09:01:07	054.2	-51.6	.....	.....	+0.05	+0.05	.....	+0.34		
29513-014	23:14:24.9	-37:53:10	359.0	-67.0	.....	.....	+0.02	+0.02	.....	+0.46		
29513-015	23:14:33.0	-37:36:09	359.6	-67.1	14.25	+0.37	+0.02	+0.02	+0.35	+0.33		
29513-031	23:25:11.5	-39:59:30	351.7	-68.0	15.09	+0.35	+0.02	+0.02	+0.33	+0.29		
29514-007	01:06:40.5	-24:58:41	181.6	-86.0	.....	.....	+0.02	+0.02	.....	+0.34		
29514-018	01:09:28.4	-26:39:48	207.4	-86.0	.....	.....	+0.02	+0.02	.....	+0.35		
29514-037	01:21:41.5	-27:03:30	214.1	-83.3	.....	.....	+0.01	+0.01	.....	+0.34		
29515-060	02:42:00.6	-32:16:52	231.8	-65.5	.....	.....	+0.02	+0.02	.....	+0.47		
29516-028	22:25:40.3	+05:37:40	070.4	-41.9	15.02	+0.55	+0.14	+0.13	+0.42	+0.46		
29517-042	00:05:03.1	-16:22:04	075.6	-74.8	14.10	+0.39	+0.03	+0.03	+0.36	+0.37		
29518-005	01:09:02.7	-31:31:56	262.9	-84.2	.....	.....	+0.03	+0.03	.....	+0.38		
29518-020	01:12:12.9	-31:00:06	254.6	-84.0	14.00	+0.41	+0.02	+0.02	+0.39	+0.36		
29518-027	01:14:23.0	-31:03:22	252.4	-83.6	.....	.....	+0.02	+0.02	.....	+0.42		
29518-033	01:14:51.6	-27:58:16	223.5	-84.7	.....	.....	+0.02	+0.02	.....	+0.23		
29518-039	01:22:45.7	-28:24:32	225.2	-83.0	14.26	+0.31	+0.02	+0.02	+0.29	+0.27		
29518-043	01:18:38.2	-30:41:02	245.4	-83.1	14.57	+0.37	+0.02	+0.02	+0.35	+0.33		
29518-045	01:22:30.1	-31:40:06	248.7	-81.9	15.01	+0.42	+0.02	+0.02	+0.40	+0.38		
29518-051	01:24:09.8	-28:15:23	223.7	-82.7	13.01	+0.63	+0.01	+0.01	+0.62	+0.62		
29519-080	02:28:36.2	-48:41:41	268.4	-61.4	13.52	+0.40	+0.02	+0.02	+0.38	+0.40		
29519-132	02:19:55.8	-48:01:38	269.3	-62.9	.....	.....	+0.03	+0.03	.....	+0.37		
29519-133	02:19:22.8	-48:04:38	269.6	-63.0	12.86	+0.39	+0.03	+0.03	+0.36	+0.39		
29520-089	04:58:50.3	-59:46:34	269.0	-37.3	14.57	+0.39	+0.02	+0.02	+0.37	+0.34		
29522-046	23:44:59.6	+08:46:54	096.5	-50.6	12.74	+0.49	+0.12	+0.11	+0.38	+0.43		
29526-108	03:26:41.8	-23:04:36	215.1	-54.8	.....	.....	+0.02	+0.02	.....	+0.49		
29526-110	03:27:43.6	-23:00:31	215.1	-54.5	13.35	+0.36	+0.02	+0.02	+0.34	+0.31		
29526-126	03:21:45.9	-26:37:37	220.9	-56.6	.....	.....	+0.01	+0.01	.....	+0.42		
29526-147	03:19:29.1	-26:14:00	220.0	-57.0	.....	.....	+0.01	+0.01	.....	+0.40		
29526-148	03:20:47.3	-26:31:32	220.6	-56.8	.....	.....	+0.01	+0.01	.....	+0.38		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
29527-015	00:29:10.5	-19:10:07	089.1	-80.5	14.25	+0.39	+0.02	+0.02	+0.37	+0.39		
29527-048	00:38:26.3	-19:26:35	101.0	-81.8	14.83	+0.46	+0.02	+0.02	+0.44	+0.45		
29527-057	00:45:13.3	-21:25:03	108.7	-84.1	13.68	+0.29	+0.02	+0.02	+0.27	+0.30		*
29528-028	02:28:26.5	-21:33:00	204.0	-67.3	14.51	+0.35	+0.02	+0.02	+0.33	+0.31		
29528-030	02:27:22.9	-20:54:33	202.3	-67.3	.....	.....	+0.02	+0.02	.....	+0.40		
29528-041	02:29:25.1	-18:13:30	196.5	-65.8	14.60	+0.42	+0.03	+0.03	+0.39	+0.39		
29529-054	03:59:23.9	-62:10:08	274.9	-43.4	14.87	+0.54	+0.04	+0.04	+0.50	+0.48		
29529-119	03:42:13.8	-60:45:37	274.5	-45.8	14.61	+0.48	+0.09	+0.09	+0.39	+0.41		
30301-024	15:08:29.6	-00:36:01	358.5	+46.9	12.95	+0.42	+0.06	+0.06	+0.36	+0.33		
30302-145	19:40:52.2	-48:39:19	349.8	-27.9	14.46	+0.38	+0.05	+0.05	+0.33	+0.35		
30303-090	21:21:42.8	-28:41:17	018.2	-44.0	13.36	+0.43	+0.08	+0.08	+0.35	+0.34		
30308-035	20:45:53.7	-44:50:28	355.7	-38.6	13.95	+0.71	+0.04	+0.04	+0.67	+0.66		
30308-062	20:51:05.1	-44:10:44	356.6	-39.5	13.87	+0.41	+0.04	+0.04	+0.37	+0.33		
30308-104	21:03:26.8	-43:52:29	357.0	-41.7	12.89	+0.44	+0.03	+0.03	+0.41	+0.37		
30310-023	01:07:37.7	-41:23:04	290.8	-75.0	.....	.....	+0.01	+0.01	.....	+0.41		
30311-022	13:23:10.4	+04:36:24	322.9	+66.2	14.14	+0.38	+0.03	+0.03	+0.35	+0.38		
30311-068	13:13:32.7	+06:52:24	318.5	+69.1	14.11	+0.31	+0.03	+0.03	+0.28	+0.31		
30312-062	15:37:32.8	-01:43:55	003.9	+40.7	12.58	+0.33	+0.13	+0.12	+0.21	+0.35		*
30312-165	15:49:40.0	+01:39:19	009.8	+40.3	12.48	+0.38	+0.11	+0.11	+0.27	+0.25		
30314-067	20:52:50.8	-34:19:47	009.3	-38.9	11.85	+1.13	+0.07	+0.07	+1.06	+0.93	*	*
30314-177	20:40:18.3	-34:31:14	008.5	-36.4	12.48	+0.40	+0.04	+0.04	+0.36	+0.38		
30315-059	23:25:10.0	-23:19:53	039.2	-70.2	.....	.....	+0.03	+0.03	.....	+0.32		
30315-060	23:25:47.4	-23:35:51	038.5	-70.4	15.62	-0.14	+0.03	+0.03	-0.17	-0.19		
30315-076	23:21:05.3	-22:36:11	040.4	-69.0	13.78	+0.59	+0.03	+0.03	+0.56	+0.54		
30315-093	23:16:16.7	-25:09:00	032.8	-68.6	14.15	+0.51	+0.02	+0.02	+0.49	+0.49		
30320-069	13:58:52.5	+10:51:34	350.4	+67.3	14.56	+0.44	+0.02	+0.02	+0.42	+0.46		
30320-075	13:58:46.2	+12:57:00	354.3	+68.8	11.00	+0.36	+0.04	+0.04	+0.32	+0.24		
30320-109	13:52:11.6	+11:35:39	348.4	+68.9	13.89	+0.51	+0.03	+0.03	+0.48	+0.46		
30322-007	21:31:18.1	-45:02:00	355.0	-46.6	13.10	+0.48	+0.02	+0.02	+0.46	+0.38		
30322-009	21:31:03.9	-44:11:55	356.2	-46.7	13.86	+0.43	+0.03	+0.03	+0.40	+0.43		
30322-066	21:19:12.2	-44:02:43	356.6	-44.5	13.81	+0.56	+0.04	+0.04	+0.52	+0.49		
30323-036	23:09:45.6	-24:12:10	034.5	-66.9	13.01	+0.41	+0.02	+0.02	+0.39	+0.43		
30323-047	23:06:00.2	-24:12:01	034.0	-66.1	14.30	+0.45	+0.03	+0.03	+0.42	+0.38		
30323-048	23:07:19.9	-23:52:39	035.0	-66.3	12.11	+0.39	+0.03	+0.03	+0.36	+0.37		
30323-088	22:56:59.8	-23:58:33	033.5	-64.1	14.58	+0.41	+0.03	+0.03	+0.38	+0.31		
30324-024	00:11:32.9	-20:32:41	066.6	-78.0	13.10	+0.51	+0.02	+0.02	+0.49	+0.47		
30324-045	00:19:57.2	-19:53:02	076.4	-79.0	.....	.....	+0.02	+0.02	.....	+0.34		
30325-028	15:05:19.8	+06:17:05	005.8	+52.0	12.87	+0.77	+0.04	+0.04	+0.73	+0.71		
30325-094	14:54:39.2	+04:21:34	000.6	+52.8	12.32	+0.70	+0.04	+0.04	+0.66	+0.67		
30329-004	15:48:42.0	-06:52:43	001.1	+35.3	11.88	+0.82	+0.14	+0.13	+0.69	+0.66		
30331-060	21:15:15.8	-24:23:06	023.4	-41.6	.....	.....	+0.06	+0.06	.....	+0.43		
30331-126	21:03:29.0	-24:48:04	021.9	-39.2	.....	.....	+0.07	+0.07	.....	+0.36		
30332-012	22:50:45.7	+10:35:54	081.1	-42.3	14.65	+0.54	+0.09	+0.09	+0.45	+0.37		*
30333-002	23:50:00.8	+08:43:30	098.3	-51.2	11.32	+0.50	+0.10	+0.10	+0.40	+0.50		
30333-047	23:45:02.2	+07:43:16	095.8	-51.6	13.53	+0.62	+0.19	+0.16	+0.46	+0.40		*
30336-049	20:45:23.4	-28:42:35	015.9	-36.3	14.03	+0.86	+0.07	+0.07	+0.79	+0.77		
30336-067	20:40:44.1	-32:19:15	011.2	-36.1	14.34	+0.60	+0.05	+0.05	+0.55	+0.53		
30337-097	22:01:21.4	-30:58:01	016.6	-52.9	13.20	+0.72	+0.03	+0.03	+0.69	+0.72		
30338-119	23:12:53.0	+08:19:51	085.5	-47.3	13.82	+0.59	+0.05	+0.05	+0.54	+0.56		
30339-002	00:14:30.2	-36:38:31	340.1	-77.7	.....	.....	+0.01	+0.01	.....	+0.42		

Table 3. Coordinates, BV , $E(B-V)$'s, $(B-V)_0$'s, and Notes. Continued...

STAR	RA (2000.0)	DEC	l	b	V	$B-V$	$E(B-V)_S$	$E(B-V)_A$	$(B-V)_0$	BV_0	CH	OUT
30339-019	00:15:40.9	-32:33:21	355.8	-80.5	.....	.....	+0.01	+0.01	.....	+0.37		
30339-041	00:23:12.9	-37:01:27	332.3	-78.4	13.91	+0.56	+0.01	+0.01	+0.55	+0.47		
30339-046	00:25:21.6	-36:30:27	331.8	-79.1	15.31	+0.39	+0.01	+0.01	+0.38	+0.36		
30339-049	00:26:52.7	-35:34:04	333.2	-80.1	.....	.....	+0.01	+0.01	.....	+0.33		
30339-069	00:30:16.0	-35:56:55	328.7	-80.1	14.75	+0.36	+0.01	+0.01	+0.35	+0.31		
30339-080	00:34:21.0	-33:04:16	333.8	-83.0	14.72	+0.37	+0.01	+0.01	+0.36	+0.38		
30343-044	21:47:56.4	-33:23:57	012.4	-50.2	13.69	+0.59	+0.04	+0.04	+0.55	+0.51		
30344-070	22:47:23.2	-35:32:44	007.5	-62.3	14.43	+0.36	+0.01	+0.01	+0.35	+0.39		
30344-075	22:47:13.2	-37:32:41	003.3	-61.9	13.57	+0.56	+0.01	+0.01	+0.55	+0.59		
30492-016	21:04:49.5	-40:14:47	001.9	-41.9	13.89	+0.45	+0.03	+0.03	+0.42	+0.45		
30493-001	23:02:52.6	-37:01:18	002.7	-65.1	.....	.....	+0.01	+0.01	.....	+0.37		
30493-028	23:06:36.7	-33:18:18	011.2	-66.6	13.20	+0.49	+0.02	+0.02	+0.47	+0.50		
30493-071	23:16:30.7	-35:34:38	004.4	-68.1	13.21	+0.42	+0.02	+0.02	+0.40	+0.43		
30494-003	03:59:10.0	-21:06:49	215.5	-47.0	.....	.....	+0.05	+0.05	.....	+0.52		
30494-016	04:04:28.0	-17:27:04	211.1	-44.6	.....	.....	+0.03	+0.03	.....	+0.40		
31061-057	02:35:55.9	+02:46:29	167.1	-50.9	13.51	+0.20	+0.03	+0.03	+0.17	+0.34		*
31061-062	02:32:50.1	+05:45:03	163.4	-49.0	13.90	+0.48	+0.06	+0.06	+0.42	+0.32		
31062-012	00:44:03.6	-13:55:18	115.1	-76.7	12.10	+0.47	+0.02	+0.02	+0.45	+0.44	*	*
31063-050	02:37:12.4	+03:48:28	166.5	-49.9	11.45	+0.48	+0.05	+0.05	+0.43	+0.38		
31063-072	02:33:43.7	+04:58:26	164.4	-49.5	14.15	+0.47	+0.04	+0.04	+0.43	+0.42		
31064-031	03:05:01.5	-65:46:39	283.9	-46.1	.....	.....	+0.03	+0.03	.....	+0.20		
31064-060	02:58:29.1	-65:00:30	283.9	-47.1	.....	.....	+0.04	+0.04	.....	+0.39		
31064-113	02:35:34.0	-64:52:36	286.5	-48.8	.....	.....	+0.02	+0.02	.....	+0.76	*	*
31065-040	00:48:29.9	-11:32:50	120.3	-74.4	13.10	+0.39	+0.03	+0.03	+0.36	+0.38		
31066-001	02:06:13.7	-22:30:47	201.8	-72.4	12.95	+0.50	+0.01	+0.01	+0.49	+0.49		
31066-027	01:58:46.1	-22:53:41	201.1	-74.2	.....	.....	+0.01	+0.01	.....	+0.32		
31067-019	03:23:23.0	+04:38:53	177.9	-41.5	12.61	+0.45	+0.12	+0.11	+0.34	+0.46		
31068-033	06:06:14.9	-61:02:31	270.1	-28.9	13.82	+0.46	+0.05	+0.05	+0.41	+0.40		
31068-042	06:02:10.1	-61:04:45	270.1	-29.4	13.80	+0.60	+0.04	+0.04	+0.56	+0.55		
31070-080	00:07:32.0	+05:42:00	103.4	-55.5	.....	.....	+0.03	+0.03	.....	+0.15		
31072-118	05:08:53.4	-59:18:26	268.2	-36.1	12.70	+0.92	+0.02	+0.02	+0.90	+0.85		
31074-063	02:44:35.1	+08:28:59	164.5	-45.1	11.45	+0.44	+0.18	+0.15	+0.29	+0.39		
31076-028	05:32:57.7	-59:15:43	267.9	-33.0	14.36	+0.53	+0.05	+0.05	+0.48	+0.49		
31076-034	05:32:55.2	-57:41:11	266.0	-33.0	14.07	+0.47	+0.05	+0.05	+0.42	+0.44		
31079-004	03:05:05.1	+03:52:23	174.3	-45.3	13.15	+0.46	+0.09	+0.09	+0.37	+0.35		
31080-095	04:44:21.8	-45:13:57	250.6	-40.8	12.99	+0.52	+0.01	+0.01	+0.51	+0.47	*	*
31081-003	01:30:37.3	-14:18:50	160.4	-74.3	13.09	+0.80	+0.02	+0.02	+0.78	+0.60		*
31081-049	01:13:49.0	-14:38:24	146.7	-76.5	12.98	+0.93	+0.02	+0.02	+0.91	+0.91		*
31081-059	01:30:54.5	-14:44:00	161.5	-74.6	.....	.....	+0.02	+0.02	.....	+0.37		
31082-001	01:29:31.2	-16:00:48	163.3	-75.8	11.67	+0.77	+0.01	+0.01	+0.76	+0.71		
31083-069	03:19:28.4	+10:51:27	171.3	-37.7	13.24	+1.06	+0.80	+0.56	+0.50	+0.47		*
31084-022	03:29:59.8	+09:26:13	174.9	-37.0	11.56	+0.45	+0.28	+0.22	+0.23	+0.37		
31085-024	00:08:27.7	+10:54:26	106.2	-50.6	14.00	+0.62	+0.11	+0.11	+0.51	+0.56		
31087-013	03:47:19.1	+04:26:59	183.1	-37.1	14.10	+0.68	+0.29	+0.22	+0.46	+0.38		*
31087-045	03:41:58.9	+05:15:42	181.3	-37.6	13.84	+0.66	+0.28	+0.22	+0.44	+0.38		*
31089-055	01:32:56.5	-15:56:58	165.8	-75.2	14.18	+0.41	+0.02	+0.02	+0.39	+0.36		
31090-086	01:28:40.3	-17:02:02	165.3	-76.7	.....	.....	+0.02	+0.02	.....	+0.39		

Table 4. Cross-Identifications of VMP Stars

STAR	Name 2	Name 3
15623-023	16023-055	
16026-073	16032-006	
16033-081	16479-035	
16469-075	16923-089	
16472-092	30301-129	
16477-038	30317-039	
16541-052	30306-073	
16543-068	16479-046	
16546-098	22883-049	
16929-035	16938-053	
16934-060	16467-062	
16968-061	30325-044	
17448-016	17136-030	
17448-033	16468-004	
17577-010	17581-110	
22166-024	31065-009	
22166-030	31065-008	
22173-002	30494-004	
22173-014	30494-015	
22173-015	30494-040	
22886-012	29512-015	
22888-014	30493-023	
22890-064	30306-117	
22890-074	16559-077	
22894-023	22952-011	
22937-087	30492-126	
22952-011	22894-023	
22956-017	22897-121	
22966-019	29496-047	
29501-051	30492-102	22937-072
29510-054	29528-025	
29512-006	22886-008	
29512-013	29512-013	
29512-015	22886-012	
29512-030	22886-003	
29512-076	22886-069	
29517-042	31060-052	
30301-024	16472-070	
30315-093	30323-006	
30333-047	29522-049	
30336-067	30314-194	
30343-044	30327-069	
31061-057	31063-056	
31061-062	31063-069	
31063-050	31061-040	
31064-031	31075-091	
31065-040	22170-027	
31070-080	31069-100	
31076-028	31072-037	
31079-004	31078-002	
31081-059	31089-062	
31084-022	31083-022	
31089-055	31090-067	

Table 5. Dereddened photometry, Reddening Excesses, and Photometric Classifications

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
15621-006	13.234	0.333	0.050	0.296	0.027	0.02	TO
15621-024	14.515	0.320	0.079	0.306	.....	0.02	TO
15621-051	13.670	0.234	0.090	0.871	.....	0.03	HB
15621-058	14.348	0.198	0.114	0.702	.....	0.02	BS
15621-070	12.634	0.257	0.116	0.510	0.007	0.03	BS-TO
15621-073	13.516	0.333	0.064	0.331	0.001	0.02	SG
15621-077	13.705	0.305	0.056	0.291	0.040	0.04	TO
15622-055	14.286	0.269	0.106	0.458	.....	0.01	BS-TO
15623-023	14.241	0.316	0.057	0.288	.....	0.02	TO
15624-040	13.478	0.335	0.023	0.281	0.017	0.01	TO
16026-006	14.292	0.277	0.083	0.355	.....	0.02	TO
16026-040	13.354	0.320	0.076	0.336	0.010	0.01	TO
16026-068	10.869	0.326	0.052	0.296	0.008	0.02	TO
16026-073	13.406	0.244	0.134	0.547	-0.013	0.01	BS-TO
16027-003	13.623	0.322	0.056	0.339	0.034	0.01	TO
16027-029	15.262	0.277	0.040	0.411	.....	0.01	TO
16027-043	14.961	0.334	0.026	0.324	.....	0.01	SG
16027-046	14.927	0.371	0.010	0.210	.....	0.01	TO
16027-049	13.487	0.341	0.053	0.699	.....	0.01	HB
16027-073	14.217	0.368	0.064	0.298	0.008	0.01	SG
16033-008	13.739	0.474	0.017	0.250	.....	0.02	SG
16033-081	13.419	0.533	0.101	0.370	.....	0.01	RG
16076-006	13.436	0.426	0.040	0.229	.....	0.03	SG
16076-040	12.071	0.315	0.068	0.293	0.015	0.04	TO
16076-050	13.183	0.391	0.062	0.222	.....	0.04	SG
16077-007	12.411	0.303	0.052	0.315	0.009	0.02	TO
16077-023	12.303	0.278	0.050	0.369	0.039	0.02	TO
16081-038	13.993	0.261	0.121	0.323	-0.052	0.02	TO
16083-019	12.896	0.312	0.054	0.312	0.032	0.02	TO
16083-096	13.784	0.362	0.028	0.218	0.012	0.01	TO
16084-160	13.162	0.624	0.058	0.420	.....	0.01	RG
16085-050	12.098	0.532	0.048	0.380	.....	0.02	RG
16089-013	13.339	0.535	0.076	0.348	.....	0.01	RG
16089-042	14.218	0.325	0.038	0.707	.....	0.02	HB
16089-086	14.053	0.296	0.065	0.765	.....	0.02	HB
16090-038	13.063	0.133	0.078	0.191	.....	0.02	SL-BHB
16468-009	14.723	0.323	0.067	0.196	.....	0.02	TO
16469-075	13.328	0.524	0.081	0.363	.....	0.02	RG
16470-007	13.915	0.498	0.094	0.324	.....	0.03	RG
16470-061	14.131	0.298	0.084	0.309	.....	0.02	TO
16470-062	13.717	0.528	0.361	0.093	-0.023	0.03	MS
16472-092	13.118	0.311	0.068	0.306	0.033	0.06	TO
16477-038	12.612	0.480	0.067	0.430	.....	0.03	RHB-AGB
16479-065	12.189	0.347	0.061	0.278	0.014	0.02	TO
16541-022	13.693	0.268	0.062	0.462	0.043	0.03	BS-TO
16541-052	12.549	0.233	0.046	0.956	.....	0.04	HB
16543-068	12.068	0.333	0.073	0.272	-0.011	0.02	TO
16543-097	12.521	0.500	0.064	0.284	.....	0.02	RG
16546-075	13.090	0.385	0.057	0.262	.....	0.03	SG
16546-098	13.866	0.297	0.061	0.340	.....	0.03	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
16547-049	13.656	0.291	0.081	0.347	.....	0.11	TO
16548-009	13.676	0.426	0.203	0.391	0.034	0.02	SG
16548-070	13.640	0.456	0.063	0.287	.....	0.02	SG
16549-007	14.059	0.439	0.055	0.234	.....	0.02	SG
16549-017	12.509	0.303	0.051	0.379	0.008	0.02	TO
16549-043	14.096	0.456	0.073	0.108	.....	0.02	MS
16550-014	12.066	0.394	0.064	0.494	-0.024	0.03	RHB-AGB
16550-043	14.470	0.326	0.047	0.691	.....	0.01	HB
16551-118	11.895	0.411	0.219	0.360	0.083	0.13	SG
16552-042	14.371	0.329	0.042	0.642	.....	0.02	HB
16552-086	14.363	0.421	0.198	0.388	.....	0.02	SG
16557-012	14.079	0.322	0.075	0.343	-0.021	0.04	TO
16557-024	13.071	0.362	0.135	0.340	-0.019	0.05	SG
16557-063	14.320	0.189	0.079	1.001	.....	0.04	HB
16557-074	12.271	0.317	0.062	0.274	-0.001	0.04	TO
16558-001	13.917	0.329	0.083	0.618	.....	0.05	HB
16558-021	12.414	0.306	0.084	0.346	0.023	0.04	TO
16920-017	13.886	0.555	0.087	0.364	.....	0.01	RG
16927-017	11.523	0.336	0.036	0.286	0.048	0.01	TO
16927-063	13.539	0.341	0.132	0.394	0.006	0.01	SG
16928-053	13.459	0.616	0.077	0.402	.....	0.01	RG
16929-005	13.654	0.478	0.025	0.299	.....	0.01	RG (CH)
16929-035	12.990	0.305	0.058	0.367	0.015	0.01	TO
16934-002	12.741	0.629	0.116	0.474	.....	0.03	RG
16934-018	13.954	0.314	0.055	0.269	0.036	0.02	TO
16934-060	14.049	0.453	0.031	0.268	.....	0.02	SG
16968-061	12.833	0.279	0.053	0.350	0.087	0.05	TO
16972-003	14.232	0.288	0.067	0.330	.....	0.02	TO
16972-009	14.319	0.303	0.078	0.254	.....	0.02	TO
16972-013	13.521	0.330	0.081	0.278	0.024	0.02	TO
16972-041	12.997	0.315	0.066	0.338	-0.011	0.02	TO
16986-072	12.818	0.544	0.349	0.385	0.135	0.01	RG
17136-014	13.241	0.262	0.065	0.886	.....	0.03	HB
17139-007	14.391	0.316	0.074	0.195	.....	0.03	TO
17435-003	11.974	0.268	0.041	0.811	.....	0.04	HB
17435-024	12.978	0.398	0.028	0.270	.....	0.03	SG
17438-020	13.894	0.372	0.122	0.363	.....	0.05	SG
17438-082	13.117	0.199	0.238	0.661	.....	0.05	BS (Am)
17439-054	12.808	0.376	0.154	0.340	0.045	0.05	SG
17439-055	10.983	0.228	0.102	0.644	.....	0.04	BS
17439-065	13.336	0.480	0.063	0.430	.....	0.04	RHB-AGB
17444-032	13.530	0.328	0.077	0.278	-0.008	0.04	TO
17444-046	13.212	0.369	0.061	0.240	0.005	0.04	TO
17444-059	12.952	0.305	0.117	0.455	0.038	0.04	BS-TO
17448-016	10.193	0.188	0.221	0.697	.....	0.03	BS (Am)
17448-033	13.534	0.215	0.149	0.628	.....	0.01	BS
17569-011	10.645	1.071	0.269	-0.222	.....	0.05	SL
17570-009	13.066	0.438	0.044	0.494	.....	0.03	RHB-AGB
17570-011	12.777	0.306	0.074	0.663	.....	0.04	HB
17572-057	13.453	0.396	0.203	0.338	0.036	0.04	SG

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
17572-067	13.275	0.316	0.096	0.317	0.020	0.03	TO
17572-100	12.129	0.271	0.054	0.390	0.033	0.04	TO
17574-129	10.232	0.355	0.053	0.676	.....	0.16	HB
17575-163	12.041	0.184	0.230	0.717	.....	0.18	BS (Am) *
17575-163	12.063	0.165	0.231	0.686	.....	0.18	BS (Am) *
17575-168	12.885	0.330	0.036	0.319	.....	0.17	SG *
17575-168	12.890	0.354	0.055	0.333	0.118	0.17	SG *
17575-169	11.834	0.165	0.234	0.714	.....	0.17	BS (Am)
17576-002	10.453	0.326	0.070	0.304	0.018	0.04	TO
17576-027	11.819	0.388	0.035	0.567	0.008	0.03	RHB-AGB
17576-043	9.854	0.194	0.227	0.684	.....	0.03	BS (Am)
17576-071	12.265	0.324	0.079	0.334	0.009	0.04	TO
17577-010	10.589	0.189	0.212	0.669	.....	0.04	BS (Am)
17577-012	10.566	0.030	0.183	1.063	.....	0.04	BHB
17578-056	9.558	0.144	0.235	0.690	.....	0.11	BS (Am)
17579-012	.....	0.131	0.049	-0.129	.....	0.02	SL-BHB *
17579-012	12.277	0.134	0.029	-0.150	.....	0.02	SL-BHB *
17581-075	11.943	0.262	0.205	0.526	.....	0.03	BS-TO
17581-077	12.699	0.284	0.056	0.378	0.026	0.04	TO
17581-078	10.591	0.169	0.237	0.689	.....	0.03	BS (Am)
17581-113	13.013	0.356	0.130	0.350	0.024	0.05	SG
17582-050	11.412	0.205	0.122	0.615	.....	0.07	BS
17582-096	13.528	0.303	0.110	0.423	.....	0.06	TO (CH)
17582-113	12.904	0.330	0.063	0.288	0.030	0.05	TO
17583-067	12.230	0.156	0.250	0.665	.....	0.11	BS (Am)
17583-100	12.043	0.347	0.043	0.315	0.073	0.10	SG
17585-132	11.143	0.233	0.234	0.672	.....	0.39	BS (Am)
17586-014	11.725	0.423	0.213	0.297	0.047	0.04	SG
17586-048	11.800	0.277	0.071	0.366	0.024	0.03	TO
22166-024	13.761	0.307	0.053	0.370	.....	0.03	TO
22166-030	13.391	0.309	0.046	0.306	0.046	0.03	TO
22169-002	13.167	0.338	0.073	-0.093	.....	0.05	SL (CH)
22169-008	15.015	0.319	0.083	0.330	0.010	0.06	TO
22169-019	13.670	0.304	0.061	0.307	0.023	0.03	TO
22169-035	12.780	0.630	0.089	0.454	.....	0.04	RG *
22169-035	12.808	0.612	0.129	0.468	.....	0.04	RG *
22170-021	14.159	0.345	0.039	0.331	-0.043	0.03	SG
22171-009	13.283	0.294	0.056	0.366	0.024	0.03	TO
22171-016	13.151	0.315	0.054	0.344	0.014	0.02	TO
22171-031	13.846	0.282	0.056	0.356	0.027	0.02	TO
22171-034	13.313	0.332	0.050	0.296	-0.012	0.03	TO
22171-037	14.933	0.317	0.025	0.408	-0.029	0.02	TO
22172-002	12.523	0.556	0.039	0.354	.....	0.07	RG *
22172-002	12.539	0.541	0.074	0.388	.....	0.07	RG *
22172-019	14.043	0.299	0.042	0.357	.....	0.08	TO
22172-033	13.610	0.320	0.122	0.263	.....	0.07	TO
22172-035	14.182	0.282	0.075	0.406	.....	0.04	TO
22173-002	13.457	0.325	0.065	0.292	0.007	0.04	TO
22173-014	13.609	0.290	0.057	0.368	0.026	0.03	TO
22173-015	13.103	0.343	0.025	0.224	0.024	0.02	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
22174-007	12.315	0.478	0.067	0.297	.....	0.03	RG
22174-020	14.998	0.303	0.046	0.385	0.018	0.04	TO
22175-013	12.960	0.304	0.055	0.356	-0.014	0.03	TO
22176-018	13.261	0.339	0.180	0.326	.....	0.07	SG
22177-009	14.100	0.303	0.043	0.278	0.039	0.04	TO
22177-010	14.191	0.309	0.052	0.299	0.027	0.05	TO
22180-005	13.960	0.384	0.031	0.293	.....	0.03	SG
22180-014	13.492	0.341	0.034	0.195	0.024	0.02	TO
22180-034	14.224	0.329	0.057	0.217	.....	0.03	TO
22180-036	14.476	0.435	0.220	0.365	.....	0.03	SG
22182-022	13.030	0.323	0.056	0.338	-0.009	0.04	TO
22182-033	14.516	0.338	0.040	0.306	0.034	0.03	SG
22182-047	13.145	0.361	0.053	0.300	0.024	0.05	SG
22185-006	14.042	0.318	0.050	0.246	.....	0.06	TO
22185-007	13.150	0.491	0.094	0.289	.....	0.06	RG
22185-025	14.001	0.272	0.072	0.330	.....	0.07	TO
22186-002	13.233	0.381	0.032	0.285	.....	0.01	SG
22186-005	12.974	0.308	0.032	0.726	.....	0.01	HB
22186-017	13.459	0.318	0.049	0.291	0.022	0.02	TO
22186-020	13.259	0.327	-0.020	0.837	.....	0.03	HB
22186-023	12.874	0.501	0.051	0.365	.....	0.02	RG
22186-025	14.148	0.517	0.104	0.390	.....	0.03	RG
22188-006	11.976	0.289	0.104	0.269	.....	0.01	TO
22188-033	13.196	0.340	0.034	0.234	.....	0.01	TO
22188-048	11.987	0.574	0.088	0.433	.....	0.01	RG
22189-009	14.023	0.525	0.095	0.350	.....	0.02	RG
22189-018	15.305	0.269	0.056	0.359	.....	0.02	TO
22189-036	14.306	0.338	0.035	0.265	.....	0.03	TO
22190-007	14.122	0.351	0.054	0.493	.....	0.03	RHB-AGB
22191-019	12.915	0.308	0.016	0.337	.....	0.03	TO
22191-024	13.477	0.531	-0.010	0.495	.....	0.03	RHB-AGB
22191-029	13.986	0.321	0.033	0.666	.....	0.02	HB
22871-084	14.064	-0.109	0.075	-0.017	.....	0.09	BHB
22871-107	13.682	0.292	0.080	0.319	.....	0.11	TO
22872-010	13.995	0.275	0.064	0.784	.....	0.17	HB
22872-036	14.413	0.334	0.042	0.386	.....	0.15	SG
22872-079	14.605	0.317	0.044	0.266	.....	0.12	TO
22872-102	12.968	0.319	0.053	0.271	0.154	0.23	TO
22873-055	12.432	0.613	0.139	0.476	.....	0.08	RG
22873-072	14.291	0.265	0.046	0.328	0.084	0.06	TO
22873-128	12.936	0.475	0.092	0.372	.....	0.04	RG
22873-139	13.662	0.271	0.052	0.353	0.049	0.04	TO
22873-166	11.712	0.637	0.206	0.499	.....	0.04	RG
22874-012	14.875	-0.002	0.139	1.251	.....	0.09	BHB
22875-029	13.685	0.309	0.053	0.682	.....	0.01	HB
22876-029	14.518	0.307	0.053	0.679	.....	0.01	HB
22876-032	12.811	0.330	0.034	0.251	0.003	0.01	TO
22876-034	13.761	0.289	0.075	0.725	.....	0.01	HB
22876-039	14.306	0.256	0.043	0.486	.....	0.01	BS-TO
22876-042	13.116	0.299	0.054	0.392	0.014	0.01	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
22877-011	13.742	0.426	0.079	0.281	.....	0.04	SG
22877-013	14.518	0.373	0.084	0.114	.....	0.04	MS
22877-015	13.231	0.335	0.054	0.341	0.011	0.04	SG
22877-051	13.970	0.268	0.063	0.362	0.057	0.05	TO
22878-002	14.159	0.330	0.028	0.244	.....	0.07	TO
22878-003	14.197	0.325	0.048	0.330	.....	0.07	TO
22878-013	12.903	0.300	0.047	0.362	0.082	0.08	TO
22878-027	14.262	0.324	0.061	0.242	0.031	0.07	TO
22879-012	14.483	0.281	0.034	0.390	0.052	0.04	TO
22879-029	14.296	0.306	0.070	0.292	0.033	0.04	TO (CH)
22879-051	13.703	0.273	0.046	0.395	0.044	0.04	TO
22879-092	14.548	0.289	0.074	0.348	.....	0.04	TO
22880-013	13.569	0.289	0.057	0.306	.....	0.04	TO
22880-058	14.368	0.307	0.040	0.366	.....	0.05	TO
22880-067	14.826	0.372	0.032	0.233	.....	0.08	TO
22880-109	14.430	0.331	0.058	0.310	.....	0.07	TO
22881-032	15.168	0.244	0.135	0.322	.....	0.02	TO
22881-036	13.952	0.358	0.066	0.209	0.007	0.01	TO (CH)
22881-039	14.963	0.285	0.080	0.685	.....	0.01	HB
22881-070	14.144	0.256	0.054	0.386	0.060	0.01	TO
22882-008	14.002	0.297	0.073	0.379	0.004	0.02	TO
22882-012	15.268	0.311	-0.027	0.478	.....	0.01	BS-TO
22882-027	15.113	0.299	0.050	0.337	.....	0.01	TO
22882-030	14.762	0.305	0.030	0.408	.....	0.02	TO
22883-004	14.186	0.316	0.073	0.310	.....	0.02	TO
22883-020	14.489	0.314	0.041	0.373	.....	0.03	TO
22884-006	14.507	-0.063	0.090	0.561	.....	0.13	BHB
22884-033	14.028	0.287	0.065	0.326	0.119	0.15	TO
22884-108	13.799	0.288	0.069	0.329	0.108	0.13	TO
22885-034	13.461	0.279	0.063	0.379	.....	0.06	TO
22885-096	13.133	0.486	0.057	0.405	.....	0.06	RG
22885-143	13.756	0.532	0.112	0.411	.....	0.05	RG
22886-012	14.379	0.338	0.036	0.331	.....	0.05	SG
22887-005	14.535	0.324	0.034	0.323	.....	0.05	TO
22887-048	12.722	0.257	0.095	0.422	.....	0.05	BS-TO (CH)
22888-014	14.341	0.302	0.051	0.290	0.019	0.02	TO
22888-031	14.810	0.330	0.030	0.208	0.023	0.01	TO
22889-050	14.076	0.304	0.048	0.399	.....	0.06	TO
22890-011	14.556	0.280	0.065	0.402	0.034	0.04	TO
22890-064	14.606	0.328	0.027	0.278	.....	0.04	TO
22890-074	13.723	0.076	0.057	0.017	.....	0.06	SL-BHB
22891-047	13.336	0.547	0.064	0.420	.....	0.05	RG
22891-171	14.074	0.488	0.291	0.077	.....	0.07	MS (CH)
22891-200	13.699	0.574	0.097	0.386	.....	0.08	RG
22891-209	11.948	0.577	0.116	0.479	.....	0.07	RG
22892-025	13.833	0.279	0.060	0.327	0.043	0.03	TO
22892-041	14.192	0.312	0.046	0.332	.....	0.04	TO
22893-005	13.913	0.363	0.034	0.254	0.072	0.04	TO
22893-015	14.635	0.327	0.048	0.313	0.040	0.04	TO
22893-030	13.954	0.323	0.039	0.298	0.061	0.04	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
22894-019	13.761	0.321	0.040	0.238	0.040	0.03	TO
22894-023	13.550	0.309	0.031	0.378	0.047	0.03	TO *
22894-023	13.676	0.304	0.056	0.355	.....	0.03	TO *
22894-049	14.290	0.352	0.047	0.198	0.021	0.03	TO
22898-023	14.343	0.310	0.058	0.373	.....	0.06	TO
22898-027	12.770	0.349	0.090	0.274	0.024	0.07	TO (CH)
22898-043	13.898	0.327	0.030	0.684	.....	0.05	HB
22898-047	14.005	0.389	0.063	0.211	0.058	0.06	TO
22936-242	13.902	0.307	0.050	0.250	.....	0.08	TO
22937-087	14.742	0.135	0.026	-0.122	.....	0.04	SL-BHB
22939-272	13.088	0.365	0.046	0.557	.....	0.11	RHB-AGB
22941-015	15.137	0.290	0.042	0.366	.....	0.02	TO
22941-027	13.972	0.280	0.050	0.715	.....	0.02	HB
22942-024	14.018	0.278	0.072	0.358	0.033	0.02	TO
22943-059	14.528	0.273	0.068	0.381	.....	0.04	TO
22943-095	11.623	0.292	0.055	0.329	0.032	0.03	TO
22943-132	13.361	0.357	0.034	0.223	0.001	0.04	TO
22943-137	14.357	0.328	0.062	0.290	.....	0.04	TO
22943-201	14.890	0.291	0.092	0.323	.....	0.04	TO (CH)
22944-011	11.911	0.304	0.062	0.320	0.023	0.06	TO
22944-014	14.192	0.346	0.044	0.288	-0.027	0.06	SG
22944-061	14.147	0.369	-0.025	0.286	.....	0.05	SG
22945-017	14.307	0.273	0.071	0.349	0.033	0.02	TO (CH)
22945-063	14.482	0.367	0.011	0.587	.....	0.02	RHB-AGB
22946-011	13.942	0.280	0.053	0.453	.....	0.01	BS-TO
22946-014	13.961	0.310	0.060	0.313	.....	0.02	TO
22947-114	13.658	0.376	0.058	0.339	.....	0.08	SG
22947-302	13.784	0.502	0.085	0.389	.....	0.05	RG
22948-027	12.646	0.686	0.489	-0.316	.....	0.03	SL (CH)
22948-043	13.363	0.009	0.100	1.236	.....	0.02	BHB
22948-093	15.168	0.301	0.066	0.375	.....	0.01	TO
22948-104	13.895	0.425	0.079	0.268	.....	0.02	SG (CH)
22949-007	13.697	0.321	0.058	0.298	0.009	0.04	TO
22949-008	14.010	0.315	0.080	0.301	0.037	0.04	TO (CH)
22949-029	14.495	0.341	0.066	0.200	.....	0.05	TO
22949-030	13.780	0.314	0.041	0.296	0.024	0.04	TO
22949-037	14.223	0.558	0.024	0.394	.....	0.05	RG (CNO)
22949-048	13.563	0.529	0.143	0.357	.....	0.04	RG
22949-052	13.869	0.314	0.065	0.312	-0.016	0.03	TO
22950-046	14.003	0.597	0.120	0.447	.....	0.07	RG
22950-063	14.009	0.515	0.047	0.439	.....	0.07	RHB-AGB
22950-078	14.456	0.295	0.064	0.355	.....	0.06	TO
22950-096	13.686	0.326	0.046	0.319	.....	0.07	TO
22950-153	13.550	0.381	0.074	0.274	.....	0.06	SG
22950-173	13.911	0.291	0.055	0.292	.....	0.05	TO
22951-060	13.028	0.049	0.070	1.246	.....	0.01	BHB
22952-004	13.291	0.289	0.070	0.335	0.051	0.05	TO
22952-011	13.540	0.294	0.039	0.368	0.052	0.03	TO
22952-015	13.208	0.529	0.090	0.493	.....	0.03	RHB-AGB
22953-037	13.382	0.267	0.041	0.360	0.056	0.03	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
22954-004	14.070	0.299	0.023	0.359	0.046	0.03	TO
22955-032	14.392	0.421	0.069	0.196	.....	0.06	SG *
22955-032	14.288	0.455	0.077	0.169	.....	0.06	MS *
22955-032	14.600	0.354	0.053	0.249	.....	0.06	TO *
22955-054	14.560	-0.026	0.074	0.314	.....	0.09	BHB
22955-117	14.211	0.307	0.048	0.324	.....	0.07	TO
22955-174	14.276	0.363	0.053	0.494	.....	0.05	RHB-AGB
22956-017	14.130	0.129	0.035	0.069	.....	0.05	SL-BHB
22957-019	13.470	0.284	0.042	0.320	0.057	0.03	TO
22957-022	13.246	0.472	0.034	0.385	.....	0.03	RG
22957-024	14.129	0.283	0.049	0.353	0.041	0.03	TO
22958-037	14.910	0.394	0.034	0.501	-0.006	0.02	RHB-AGB
22958-041	15.066	0.311	0.048	0.343	-0.009	0.02	TO
22958-042	14.537	0.344	0.066	0.227	0.004	0.03	TO (CH)
22958-052	14.092	0.284	0.056	0.360	0.031	0.02	TO
22958-065	14.485	0.344	0.038	0.296	0.000	0.02	SG
22958-074	14.591	0.313	0.042	0.238	0.049	0.03	TO
22959-231	14.733	0.316	0.073	0.236	.....	0.03	TO
22960-053	14.850	0.499	0.131	0.357	.....	0.01	RG (CH)
22960-060	15.644	0.267	0.086	0.384	.....	0.02	TO
22961-002	13.150	0.315	0.054	0.345	.....	0.01	TO
22961-021	13.777	0.332	0.057	0.317	-0.031	0.02	SG
22961-023	12.041	0.285	0.068	0.350	.....	0.01	TO
22961-054	14.614	0.329	0.062	0.317	.....	0.01	TO
22962-021	13.366	0.302	0.046	0.308	0.034	0.02	TO
22963-004	14.573	0.357	0.017	0.275	0.096	0.05	SG
22964-176	15.095	0.304	0.034	0.241	.....	0.08	TO
22964-183	14.274	0.281	0.069	0.374	.....	0.08	TO
22964-214	13.357	0.279	0.045	0.366	0.064	0.09	TO
22965-029	13.505	0.373	0.066	0.471	.....	0.08	RHB-AGB
22965-035	14.541	0.287	0.069	0.334	.....	0.03	TO
22965-054	14.664	0.329	0.022	0.409	.....	0.13	SG
22965-075	14.215	0.300	0.059	0.349	.....	0.07	TO
22966-011	14.561	0.322	0.059	0.224	.....	0.01	TO
22966-019	14.054	0.337	0.042	0.219	0.009	0.02	TO
22966-048	14.826	0.263	0.074	0.386	.....	0.02	TO
22966-057	14.272	0.401	0.091	0.215	.....	0.02	SG
22967-019	14.116	0.225	0.085	0.438	.....	0.04	BS-TO
22968-001	14.719	0.324	0.038	0.289	0.003	0.02	TO
22968-014	13.729	0.516	0.119	0.350	.....	0.01	RG
22968-026	14.022	0.282	0.065	0.357	0.044	0.03	TO
22968-029	14.294	0.347	0.039	0.214	0.008	0.02	TO
29491-053	12.866	0.594	0.085	0.451	.....	0.02	RG
29491-069	13.116	0.451	0.065	0.312	.....	0.01	SG
29491-076	12.560	0.306	0.052	0.355	.....	0.02	TO
29491-084	13.409	0.279	0.064	0.373	0.021	0.01	TO
29491-100	13.623	0.363	0.036	0.269	.....	0.01	SG
29493-023	14.496	0.280	0.072	0.345	.....	0.03	TO
29493-050	14.223	0.277	0.054	0.330	0.038	0.03	TO
29493-062	13.019	0.350	0.064	0.265	0.033	0.03	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
29493-094	13.980	0.286	0.049	0.364	0.027	0.02	TO
29494-020	14.082	0.332	0.057	0.317	.....	0.04	SG (CH)
29495-005	14.216	0.302	0.049	0.361	.....	0.04	TO
29495-041	13.229	0.516	0.101	0.409	.....	0.04	RG
29497-026	15.156	0.081	0.019	-0.191	.....	0.01	SL-BHB
29497-030	12.668	0.224	0.090	0.524	.....	0.01	BS-TO
29498-043	13.415	0.652	0.271	0.316	.....	0.10	RG (CH)(CN)
29499-003	14.216	0.295	0.053	0.377	0.023	0.02	TO
29499-058	13.813	0.320	0.064	0.333	-0.003	0.02	TO
29499-060	13.050	0.305	0.052	0.357	0.009	0.02	TO
29499-065	15.191	0.317	0.034	0.329	.....	0.02	TO
29501-051	13.703	0.358	0.045	0.448	0.071	0.04	RHB-AGB
29502-092	11.575	0.494	0.081	0.321	.....	0.10	RG (CH)
29503-017	14.277	0.311	0.062	0.319	.....	0.02	TO
29503-026	13.453	0.313	0.049	0.366	.....	0.02	TO
29504-006	14.474	0.293	0.053	0.346	-0.003	0.02	TO
29504-018	13.713	0.280	0.088	0.332	-0.012	0.02	TO
29505-013	14.721	0.382	0.086	0.133	.....	0.01	MS
29506-007	13.928	0.264	0.057	0.387	0.062	0.04	TO
29506-090	14.119	0.274	0.050	0.350	0.054	0.05	TO
29509-027	12.370	0.206	0.094	0.538	.....	0.02	BS-TO
29509-032	13.564	0.254	0.116	0.323	.....	0.02	TO
29509-047	14.065	0.264	0.079	0.381	.....	0.02	TO
29510-054	14.121	0.329	0.020	0.324	.....	0.02	SG
29512-006	14.342	0.305	0.070	0.277	.....	0.05	TO
29512-013	13.847	0.266	0.035	0.853	.....	0.05	HB
29512-015	14.258	0.304	0.046	0.323	0.065	0.05	TO
29512-030	14.510	0.291	0.075	0.239	.....	0.04	TO
29512-043	13.300	0.325	0.055	0.262	0.034	0.04	TO
29512-076	13.833	0.328	0.049	0.717	.....	0.04	HB
29512-081	12.780	0.280	0.108	0.444	0.055	0.05	BS-TO
29513-014	13.813	0.358	0.124	0.400	.....	0.02	SG
29513-015	14.088	0.272	0.048	0.329	0.046	0.02	TO
29513-031	15.064	0.245	0.071	0.393	.....	0.02	TO
29514-007	13.739	0.278	0.040	0.377	0.051	0.02	TO
29514-018	13.217	0.283	0.053	0.372	0.039	0.02	TO
29514-037	13.804	0.280	0.051	0.330	0.036	0.01	TO
29515-060	13.967	0.364	0.099	0.104	.....	0.02	MS
29516-028	14.540	0.356	0.062	0.159	.....	0.13	MS
29517-042	14.003	0.297	0.066	0.286	.....	0.03	TO
29518-005	14.464	0.305	0.056	0.330	.....	0.03	TO
29518-020	13.976	0.289	0.087	0.307	.....	0.02	TO
29518-027	13.899	0.334	0.129	0.269	.....	0.02	TO
29518-033	13.954	0.204	0.091	0.641	.....	0.02	BS
29518-039	14.212	0.227	0.082	0.437	.....	0.02	BS-TO
29518-043	14.513	0.272	0.079	0.381	.....	0.02	TO
29518-045	14.919	0.301	0.053	0.398	.....	0.02	TO
29518-051	13.028	0.471	0.025	0.378	.....	0.01	RG
29519-080	13.482	0.318	0.032	0.338	.....	0.02	TO
29519-132	14.944	0.295	0.054	0.335	.....	0.03	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
29519-133	12.776	0.308	0.037	0.361	.....	0.03	TO
29520-089	14.544	0.276	0.052	0.424	.....	0.02	TO
29522-046	12.382	0.341	0.055	0.274	.....	0.11	TO
29526-108	13.430	0.377	0.037	0.279	.....	0.02	SG
29526-110	13.275	0.257	0.090	0.429	.....	0.02	BS-TO
29526-126	13.961	0.331	0.068	0.334	.....	0.01	SG
29526-147	14.341	0.321	0.065	0.318	.....	0.01	TO
29526-148	14.208	0.306	0.063	0.333	.....	0.01	TO
29527-015	14.284	0.313	0.032	0.361	0.013	0.02	TO
29527-048	14.770	0.354	0.022	0.290	.....	0.02	SG
29527-057	13.761	0.247	0.057	0.857	.....	0.02	HB
29528-028	14.438	0.259	0.070	0.480	.....	0.02	BS-TO
29528-030	13.722	0.318	0.063	0.336	0.015	0.02	TO
29528-041	14.490	0.309	0.037	0.360	.....	0.03	TO
29529-054	14.729	0.372	0.027	0.201	.....	0.04	TO
29529-119	14.287	0.325	0.068	0.259	.....	0.09	TO
30301-024	12.755	0.273	0.056	0.349	0.056	0.06	TO
30302-145	14.311	0.286	0.052	0.368	.....	0.05	TO
30303-090	13.128	0.278	0.067	0.384	.....	0.08	TO
30308-035	13.849	0.493	0.074	0.345	.....	0.04	RG
30308-062	13.750	0.270	0.087	0.270	.....	0.04	TO
30308-104	12.805	0.300	0.075	0.270	.....	0.03	TO
30310-023	14.380	0.325	0.019	0.349	.....	0.01	SG
30311-022	14.185	0.303	0.083	0.277	-0.020	0.03	TO
30311-068	14.000	0.257	0.082	0.508	.....	0.03	BS-TO
30312-062	12.626	0.281	0.032	0.812	.....	0.12	HB
30312-165	12.102	0.217	0.095	0.451	.....	0.11	BS-TO
30314-067	11.659	0.678	0.271	0.491	.....	0.07	RG (CH)
30314-177	12.326	0.301	0.055	0.327	.....	0.04	TO
30315-059	14.097	0.263	0.034	0.515	.....	0.03	BS-TO
30315-060	15.539	-0.088	0.074	0.392	.....	0.03	BHB
30315-076	13.687	0.416	0.103	0.246	.....	0.03	SG
30315-093	14.070	0.382	0.053	0.323	.....	0.02	SG
30320-069	14.483	0.358	0.020	0.205	.....	0.02	TO
30320-075	.....	0.205	0.064	0.895	.....	0.04	HB
30320-109	13.782	0.362	0.053	0.508	.....	0.03	RHB-AGB
30322-007	13.067	0.305	0.139	0.145	.....	0.02	TO
30322-009	13.764	0.341	0.018	0.328	.....	0.03	SG
30322-066	13.695	0.379	0.072	0.288	.....	0.04	SG
30323-036	12.904	0.339	0.024	0.346	.....	0.02	SG
30323-047	14.226	0.304	0.077	0.269	.....	0.03	TO
30323-048	12.025	0.300	0.036	0.297	.....	0.03	TO
30323-088	14.522	0.256	0.133	0.199	.....	0.03	TO
30324-024	12.880	0.350	0.042	0.476	0.053	0.02	RHB-AGB *
30324-024	13.065	0.383	0.043	0.478	.....	0.02	RHB-AGB *
30324-045	14.492	0.280	0.045	0.330	.....	0.02	TO
30325-028	12.761	0.530	0.075	0.350	.....	0.04	RG
30325-094	12.201	0.502	0.038	0.323	.....	0.04	RG
30329-004	11.490	0.498	0.063	0.394	.....	0.13	RG
30331-060	14.542	0.336	0.058	0.216	.....	0.06	TO

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
30331-126	12.551	0.287	0.083	0.769	.....	0.07	HB
30332-012	14.042	0.298	0.049	0.274	0.103	0.09	TO
30333-002	11.276	0.386	0.059	0.115	0.015	0.10	MS
30333-047	12.924	0.320	0.088	0.363	0.141	0.16	TO
30336-049	13.824	0.571	0.117	0.468	.....	0.07	RG
30336-067	14.212	0.406	0.057	0.306	.....	0.05	SG
30337-097	13.128	0.537	0.107	0.377	.....	0.03	RG
30338-119	13.672	0.427	0.058	0.111	.....	0.05	MS
30339-002	13.904	0.330	0.060	0.347	.....	0.01	SG
30339-019	13.778	0.295	0.072	0.329	.....	0.01	TO
30339-041	13.920	0.367	0.122	0.449	.....	0.01	RHB-AGB
30339-046	15.264	0.290	0.032	0.814	.....	0.01	HB
30339-049	15.209	0.269	0.077	0.368	.....	0.01	TO
30339-069	14.508	0.258	0.048	0.386	0.054	0.01	TO
30339-080	14.617	0.302	0.039	0.304	0.027	0.01	TO
30343-044	13.573	0.390	0.104	0.226	.....	0.04	SG
30344-070	14.438	0.308	0.029	0.386	.....	0.01	TO
30344-075	13.576	0.446	0.013	0.286	.....	0.01	SG
30492-016	13.828	0.351	0.061	0.122	.....	0.03	MS
30493-001	13.128	0.300	0.106	0.280	.....	0.01	TO
30493-028	13.138	0.389	0.045	0.472	.....	0.02	RHB-AGB
30493-071	13.255	0.336	0.054	0.346	0.011	0.02	SG
30494-003	12.027	0.401	0.056	0.330	0.087	0.05	SG
30494-016	14.651	0.316	0.046	0.284	.....	0.03	TO
31061-057	13.902	0.277	0.025	0.780	.....	0.03	HB
31061-062	13.442	0.263	0.049	0.348	0.112	0.06	TO
31062-012	12.109	0.344	0.065	0.212	-0.011	0.02	TO (CH)
31063-050	11.234	0.306	0.062	0.375	0.047	0.05	TO
31063-072	14.015	0.330	0.084	0.198	.....	0.04	TO
31064-031	12.608	0.181	0.038	0.036	.....	0.03	SL-BHB
31064-060	12.995	0.312	0.033	0.690	.....	0.04	HB
31064-113	13.237	0.565	0.177	0.181	.....	0.02	MS (CH)
31065-040	12.999	0.306	0.036	0.741	.....	0.03	HB
31066-001	12.975	0.380	0.055	0.163	0.012	0.01	MS
31066-027	11.991	0.262	0.080	0.431	0.001	0.01	BS-TO
31067-019	12.502	0.358	0.049	0.212	0.021	0.11	TO
31068-033	13.672	0.320	0.033	0.380	.....	0.05	TO
31068-042	13.681	0.423	0.060	0.465	.....	0.04	RHB-AGB
31070-080	13.097	0.147	0.068	-0.021	.....	0.03	SL-BHB
31072-118	12.659	0.623	0.142	0.473	.....	0.02	RG
31074-063	11.182	0.310	0.058	0.310	0.052	0.15	TO
31076-028	14.204	0.378	0.037	0.272	.....	0.05	SG
31076-034	13.885	0.342	0.039	0.297	.....	0.05	SG
31079-004	12.781	0.283	0.066	0.348	0.087	0.09	TO
31080-095	13.005	0.363	0.067	0.155	.....	0.01	MS (CH)
31081-003	13.006	0.453	0.319	0.253	.....	0.02	SG
31081-049	13.374	0.665	0.205	0.482	.....	0.02	RG
31081-059	14.128	0.300	0.038	0.344	.....	0.02	TO
31082-001	11.675	0.543	0.089	0.334	.....	0.01	RG *
31082-001	11.682	0.515	0.137	0.337	.....	0.01	RG *

Table 5. Deredd. photometry, $E(*)$'s, and Classifications. Continued...

STAR	V_0	$(b-y)_0$	m_0	c_0	$E(b-y)$	$E(B-V)_A$	Classif.
31083-069	11.450	0.386	0.152	0.486	.....	0.56	RHB-AGB *
31083-069	11.482	0.345	0.245	0.523	.....	0.56	RHB-AGB *
31084-022	11.250	0.296	0.060	0.379	0.072	0.22	TO
31085-024	13.658	0.429	-0.025	0.225	.....	0.11	SG
31087-013	13.415	0.305	0.090	0.377	.....	0.22	TO
31087-045	12.927	0.302	0.066	0.296	0.213	0.22	TO
31089-055	14.152	0.291	0.043	0.349	.....	0.02	TO
31090-086	11.097	0.314	0.055	0.357	0.011	0.02	TO

Table 6. Line-strength indices from the HK survey

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
15621-006	4.52	3.56	....	....
15621-024	4.25	3.65	....	....
15621-051	3.24	4.69	5.10	0.85
15621-058	2.36	7.47	6.90	0.76
15621-070	3.92	6.72	6.40	1.23
15621-073	3.15	3.60	3.86	1.01
15621-077	2.26	4.50	4.08	0.57
15622-055	2.85	0.90	....	....
15623-023	1.83	4.36	....	....
15624-040	3.61	3.54	....	....
16026-006	1.32	5.04	....	....
16026-040	3.26	3.93	....	....
16026-068	3.29	3.99	3.83	0.73
16026-073	3.52	5.97	5.42	0.87
16027-003	4.52	3.05	....	....
16027-029	1.65	4.49	....	....
16027-043	1.48	4.44	....	....
16027-046	2.27	3.07	....	....
16027-049	3.20	4.76	4.41	0.70
16027-073	4.21	2.56	....	....
16033-008	3.22	1.31	1.50	1.20
16033-081	4.64	0.88	1.04	3.35
16076-006	1.58	1.79	1.37	....
16076-040	2.87	4.30	3.96	0.53
16076-050	3.35	1.78	....	....
16077-007	1.37	4.58	....	....
16077-023	1.66	4.81	4.24	0.25
16081-038	2.87	4.99	5.06	0.51
16083-019	3.57	4.12	4.17	0.84
16083-096	3.29	2.62	2.56	0.75
16084-160	3.88	1.19	1.01	1.58
16085-050	4.12	1.06	1.10	0.54
16089-013	4.84	1.16	1.34	2.54
16089-042	3.16	4.63	4.15	0.95
16089-086	2.45	5.79	5.56	0.72
16090-038	1.71	6.19	6.03	0.52
16468-009	1.82	3.08	3.76	0.29
16469-075	3.46	0.89	1.24	1.90
16470-007	4.25	....	....	....
16470-061	2.44	3.30	....	....
16470-062	8.34	....	....	5.61
16472-092	1.72	4.57	....	0.44
16477-038	4.42	....	....	....
16479-065	4.68	3.47	3.65	1.27
16541-022	3.07	....	....	....
16541-052	1.30	....	....	....
16543-068	3.83	3.68	3.19	0.79
16543-097	4.62	1.18	1.12	2.97
16546-075	4.60	....	....	....
16546-098	3.39	....	....	....

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
16547-049	1.59	4.32	....	0.34
16548-009	1.59	1.48	....	....
16548-070	5.37	1.46	....	....
16549-007	4.17	2.49	1.37	1.79
16549-017	1.79	4.31	4.19	0.26
16549-043	4.70	1.00	1.05	0.86
16550-014	3.88	....	....	....
16550-043	1.40	3.76	....	0.56
16551-118	1.82	4.88	4.95	0.94
16552-042	1.57	3.82	3.31	....
16552-086	2.00	3.92	3.66	0.53
16557-012	3.60	4.15	....	....
16557-024	5.99	3.34	....	1.77
16557-063	1.91	6.30	....	....
16557-074	1.78	4.26	....	0.50
16558-001	3.92	....	....	....
16558-021	3.64	....	....	....
16920-017	3.13	0.88	1.25	0.93
16927-017	1.84	3.32	....	....
16927-063	....	....	....	....
16928-053	4.84	0.67	1.22	1.89
16929-005	2.80	1.50	1.48	2.20
16929-035	1.27	4.64	4.17	....
16934-002	5.85	0.77	0.87	2.47
16934-018	2.19	3.46	3.36	0.82
16934-060	1.46	1.81	1.28	....
16968-061	1.40	4.07	....	....
16972-003	1.70	4.63	4.22	0.47
16972-009	1.80	4.03	....	0.71
16972-013	4.45	3.35	3.79	1.32
16972-041	2.91	4.32	4.22	0.60
16986-072	8.63	0.42	....	3.30
17136-014	3.46	5.28	5.12	0.81
17139-007	2.33	3.49	3.89	....
17435-003	1.18	6.62	6.18	....
17435-024	2.33	1.83	1.67	0.25
17438-020	1.87	1.84	1.59	1.21
17438-082	2.03	6.54	7.45	1.41
17439-054	8.35	2.35	1.79	4.55
17439-055	3.59	6.80	6.37	1.63
17439-065	5.86	0.64	1.70	1.50
17444-032	2.46	4.00	4.40	0.29
17444-046	6.23	3.22	2.83	1.29
17444-059	4.94	3.88	3.72	1.87
17448-016	2.66	6.91	7.24	1.23
17448-033	3.97	6.80	7.00	0.90
17569-011	1.14	0.25	....	0.79
17570-009	4.54	1.62	1.66	1.18
17570-011	1.93	3.91	3.38	0.35
17572-057	5.54	0.97	1.17	4.64

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
17572-067	4.88	3.67	2.94	1.75
17572-100	1.77	4.49	4.28	....
17574-129	3.69	3.20	2.74	0.73
17575-163	2.55	6.92	7.30	1.27
17575-168	3.27	3.06	3.04	0.81
17575-169	1.81	6.70	7.44	1.10
17576-002	4.84	3.61	3.11	1.35
17576-027	2.94	2.95	2.63	0.58
17576-043	2.44	6.76	7.32	1.33
17576-071	3.58	4.07	3.83	0.41
17577-010	3.33	6.97	7.30	1.38
17577-012	5.28	3.34	3.32	1.66
17578-056	1.77	6.91	7.45	1.11
17579-012	1.22	4.08	3.56	0.74
17581-075	4.51	5.96	5.79	1.53
17581-077	3.12	4.39	4.12	0.54
17581-078	1.97	6.61	7.62	1.18
17581-113	6.41	2.10	....	2.74
17582-050	3.37	6.72	6.79	1.31
17582-096	2.97	1.25	11.69	2.98
17582-113	4.77	3.08	3.07	1.25
17583-067	1.73	6.92	7.29	1.44
17583-100	2.63	2.50	2.45	0.83
17585-132	1.88	6.33	6.54	1.34
17586-014	6.71	1.40	1.31	4.09
17586-048	3.49	5.14	4.80	0.85
22166-024	2.87	4.60	4.59	1.23
22166-030	1.04	3.41	....	....
22169-002	3.74	1.71	1.78	3.29
22169-008	2.18	5.02	....	....
22169-019	2.50	4.16	4.59	0.42
22169-035	4.43	1.05	....	....
22170-021	2.33	4.48	....	....
22171-009	1.54	3.86	4.15	0.84
22171-016	1.56	4.05	4.15	0.39
22171-031	2.58	4.71	....	....
22171-034	2.91	3.89	....	....
22171-037	0.72	4.97	....	....
22172-002	2.36	1.12	....	0.58
22172-019	3.15	4.48	....	....
22172-033	3.53	1.89	1.73	0.92
22172-035	3.44	4.82	....	0.70
22173-002	2.87	3.68	3.90	0.47
22173-014	2.36	5.26	4.31	0.34
22173-015	3.56	3.02	3.43	1.08
22174-007	4.56	1.43	....	2.66
22174-020	1.48	5.29	....	....
22175-013	1.98	4.59	4.31	0.42
22176-018	6.89	3.43	....	2.78
22177-009	1.01	5.15	4.33	0.47

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
22177-010	1.71	5.30	4.32	0.67
22180-005	3.54	2.95	....	....
22180-014	2.55	3.91	....	....
22180-034	2.72	3.93	....	....
22180-036	2.34	3.84	3.96	0.60
22182-022	2.84	4.95	3.64	0.52
22182-033	2.71	3.23	3.31	0.52
22182-047	4.34	3.48	3.44	1.42
22185-006	3.09	3.98	....	....
22185-007	4.76	1.66	....	....
22185-025	1.32	4.63	5.05	0.71
22186-002	2.94	2.35	3.34	1.02
22186-005	1.35	4.42	4.74	0.54
22186-017	1.70	4.02	4.06	0.64
22186-020	2.88	6.10	6.47	0.82
22186-023	4.08	0.99	1.36	2.30
22186-025	4.55	0.77	....	1.09
22188-006	3.80	4.16	4.05	1.75
22188-033	1.22	3.60	3.15	....
22188-048	1.37	1.00	0.92	....
22189-009	1.96	1.22	1.03	1.13
22189-018	1.06	5.49	....	....
22189-036	2.96	3.56	3.24	1.06
22190-007	2.93	2.89	3.33	0.87
22191-019	2.64	4.02	3.86	0.81
22191-024	6.52	1.55	0.86	0.71
22191-029	1.83	4.17	3.62	0.36
22871-084	0.24	6.66	6.16	0.31
22871-107	1.79	4.84	....	0.69
22872-010	1.83	5.75	5.26	....
22872-036	1.84	3.98	4.18	0.35
22872-079	1.93	3.55	4.04	0.35
22872-102	1.97	4.30	3.40	0.47
22873-055	5.77	0.83	0.84	1.18
22873-072	1.53	5.00	4.30	0.68
22873-128	4.28	0.88	1.12	2.03
22873-139	0.79	4.81	4.86	0.33
22873-166	5.81	0.80	1.09	3.24
22874-012	0.77	10.64	9.93	0.72
22875-029	1.90	4.41	4.28	0.46
22876-029	1.15	5.83	6.82	0.86
22876-032	0.51	4.21	4.10	0.44
22876-034	4.51	5.19	6.05	1.37
22876-039	1.24	6.34	5.78	....
22876-042	2.49	4.01	4.90	0.43
22877-011	3.22	1.47	....	....
22877-013	3.41	2.36	....	....
22877-015	3.44	4.28	....	....
22877-051	1.68	5.28	4.54	0.34
22878-002	2.14	4.42	....	....

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
22878-003	3.12	4.12	....	....
22878-013	3.17	3.84	....	....
22878-027	1.57	4.19	....	....
22879-012	1.40	4.86	5.14	0.96
22879-029	2.75	4.24	4.39	3.48
22879-051	1.60	4.75	5.06	0.29
22879-092	1.13	5.52	5.14	....
22880-013	1.74	4.98	4.49	....
22880-058	1.33	4.87	5.11	....
22880-067	1.66	3.78	....	....
22880-109	2.94	3.75	3.10	0.61
22881-032	1.21	4.13	5.06	....
22881-036	2.36	2.74	3.52	5.45
22881-039	0.86	5.31	5.90	0.26
22881-070	1.46	5.36	4.84	0.50
22882-008	1.55	3.95	4.05	0.71
22882-012	1.61	4.65	4.30	0.57
22882-027	1.20	4.28	5.03	....
22882-030	1.51	4.69	4.61	....
22883-004	3.65	3.18	....	....
22883-020	1.96	....	....	....
22884-006	0.42	5.03	5.10	0.21
22884-033	1.08	4.71	....	....
22884-108	1.12	4.70	4.23	0.42
22885-034	1.70	4.59	....	0.30
22885-096	1.88	1.01	1.27	0.55
22885-143	5.65	0.90	1.13	2.76
22886-012	2.39	3.34	2.79	0.41
22887-005	2.48	4.87	4.11	0.78
22887-048	3.19	5.49	5.34	2.15
22888-014	2.24	4.67	3.65	0.53
22888-031	1.05	3.74	3.78	0.25
22889-050	1.73	3.75	4.71	0.55
22890-011	1.83	5.04	3.76	0.73
22890-064	1.72	4.61	3.69	....
22890-074	0.61	6.51	6.10	1.10
22891-047	3.76	1.44	1.36	1.18
22891-171	3.84	0.92	1.32	7.29
22891-200	3.87	0.96	0.85	1.71
22891-209	3.91	0.96	1.10	0.88
22892-025	1.77	4.61	....	....
22892-041	2.81	4.99	....	....
22893-005	3.44	1.57	....	....
22893-015	1.73	3.68	....	....
22893-030	2.38	2.95	....	....
22894-019	1.75	3.86	....	....
22894-023	1.48	4.03	....	....
22894-049	2.70	3.91	....	....
22898-023	1.59	4.74	....	0.91
22898-027	1.87	4.11	....	4.66

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
22898-043	1.64	4.83	....	....
22898-047	2.46	1.94	....	....
22936-242	1.94	3.27	4.14	0.93
22937-087	1.09	4.17	3.73	1.38
22939-272	2.30	3.77	....	0.31
22941-015	1.64	4.67	4.24	0.37
22941-027	1.49	4.84	4.63	0.31
22942-024	1.66	4.54	4.32	0.27
22943-059	1.63	4.63	4.63	....
22943-095	2.26	4.52	4.39	0.81
22943-132	2.99	2.57	3.09	0.84
22943-137	0.98	2.83	2.44	....
22943-201	1.88	4.35	3.56	2.24
22944-011	2.52	4.94	....	....
22944-014	2.44	3.78	....	....
22944-061	1.93	3.76	....	....
22945-017	1.18	5.01	4.58	2.56
22945-063	2.82	2.96	3.26	0.82
22946-011	0.76	6.59	6.19	0.59
22946-014	2.74	4.18	4.70	0.39
22947-114	6.96	....	....	....
22947-302	4.92	1.13	....	2.69
22948-027	3.76	....	4.50	7.86
22948-043	0.37	5.54	5.11	0.49
22948-093	0.49	5.49	5.00	....
22948-104	3.78	1.61	1.20	3.30
22949-007	1.48	4.08	4.34	0.44
22949-008	2.65	4.78	....	....
22949-029	3.26	2.91	....	....
22949-030	1.77	4.60	....	....
22949-037	1.75	1.18	....	....
22949-048	3.59	0.97	....	....
22949-052	2.32	4.90	....	....
22950-046	2.99	0.82	....	....
22950-063	4.64	0.88	....	....
22950-078	1.77	4.34	....	....
22950-096	3.79	4.76	....	....
22950-153	5.39	3.11	....	....
22950-173	1.31	4.99	....	....
22951-060	0.75	4.56	4.73	1.07
22952-004	2.60	4.02	....	....
22952-011	1.33	4.01	....	....
22952-015	2.40	0.88	....	....
22953-037	1.00	4.80	4.89	0.37
22954-004	1.79	5.01	2.74	....
22955-032	3.25	2.43	2.95	1.72
22955-054	0.54	3.18	4.04	0.24
22955-117	2.25	3.42	4.30	0.60
22955-174	2.81	3.00	2.34	0.84
22956-017	1.43	4.78	5.11	1.21

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
22957-019	2.54	3.85	....	....
22957-022	3.82	1.36	....	....
22957-024	1.42	4.58	....	....
22958-037	2.68	3.02	1.77	....
22958-041	1.27	4.75	4.11	0.48
22958-042	1.25	4.15	2.80	4.72
22958-052	2.07	4.76	2.97	....
22958-065	2.71	3.75	3.02	....
22958-074	2.56	3.81	1.66	....
22959-231	2.87	3.53	3.94	0.73
22960-053	2.80	0.55	1.35	6.05
22960-060	2.40	4.40	4.24	0.96
22961-002	1.55	4.77	4.17	....
22961-021	1.79	2.84	3.80	0.43
22961-023	1.33	4.38	4.40	0.30
22961-054	4.76	3.21	4.05	1.53
22962-021	2.92	4.10	3.79	0.48
22963-004	1.27	1.75	....	....
22964-176	1.97	4.23	4.21	....
22964-183	1.70	4.52	3.63	0.44
22964-214	1.53	5.37	5.17	0.55
22965-029	3.69	2.80	1.95	0.87
22965-035	2.58	5.28	4.76	0.54
22965-054	0.96	4.94	5.04	0.47
22965-075	2.80	4.52	3.93	0.31
22966-011	1.47	3.23	4.18	0.66
22966-019	2.66	3.83	3.54	0.35
22966-048	1.29	4.92	4.12	0.30
22966-057	4.44	1.07	1.77	1.88
22967-019	0.97	5.85	5.16	0.40
22968-001	1.65	4.35	4.26	....
22968-014	1.96	1.05	1.11	1.35
22968-026	2.61	4.07	4.19	0.82
22968-029	1.42	3.31	3.35	0.52
29491-053	5.20	0.96	....	1.14
29491-069	4.21	1.24	....	1.43
29491-076	4.93	3.78	....	0.50
29491-084	1.15	4.73	....	....
29491-100	2.90	3.63	....	0.41
29493-023	1.69	4.75	4.08	0.51
29493-050	1.36	4.46	4.63	0.51
29493-062	3.10	2.89	2.28	1.18
29493-094	1.75	4.71	4.61	0.34
29494-020	1.78	2.44	3.17	2.52
29495-005	2.57	3.63	4.19	0.44
29495-041	4.98	0.97	1.14	2.52
29497-026	1.44	1.86	3.93	0.87
29497-030	0.69	6.70	6.67	1.18
29498-043	2.50	0.28	1.26	6.88
29499-003	2.64	4.49	4.29	....

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
29499-058	1.77	4.15	2.69	0.36
29499-060	1.09	4.48	4.65	0.41
29499-065	1.48	5.43	5.53	0.25
29501-051	3.56	2.84	1.94	0.48
29502-092	3.42	1.43	1.23	4.51
29503-017	3.89	3.82	3.93	0.74
29503-026	4.46	3.37	3.43	1.55
29504-006	1.13	5.17	4.94	0.87
29504-018	1.31	3.60	4.58	0.58
29505-013	3.60	1.03	0.75	1.45
29506-007	1.34	4.82	5.12	....
29506-090	1.22	4.68	4.65	0.31
29509-027	1.07	6.04	6.55	0.55
29509-032	1.42	5.16	....	....
29509-047	1.93	3.74	4.00	0.54
29510-054	2.06	3.77	3.58	0.38
29512-006	3.29	3.65	4.65	0.92
29512-013	2.18	3.96	2.68	....
29512-015	1.93	3.38	2.60	0.42
29512-030	1.57	4.80	3.78	....
29512-043	3.56	2.96	3.47	0.94
29512-076	3.34	4.06	4.37	0.45
29512-081	6.75	5.71	4.52	2.37
29513-014	4.61	1.94	1.98	3.37
29513-015	2.26	4.35	4.47	0.28
29513-031	1.21	5.38	5.43	....
29514-007	1.16	4.91	4.41	....
29514-018	1.83	5.34	4.00	....
29514-037	2.05	5.06	4.22	0.93
29515-060	3.82	1.57	1.60	1.38
29516-028	1.44	1.89	3.54	1.55
29517-042	2.27	3.95	4.29	0.40
29518-005	1.39	3.92	4.14	0.54
29518-020	1.14	4.08	3.89	0.26
29518-027	5.84	2.50	2.53	1.70
29518-033	3.40	6.59	7.26	1.41
29518-039	0.51	5.91	6.40	....
29518-043	0.66	5.14	5.32	0.63
29518-045	4.01	3.86	3.95	0.70
29518-051	4.63	0.98	1.69	1.54
29519-080	1.97	4.83	4.52	0.62
29519-132	1.90	4.26	4.32	0.99
29519-133	1.55	4.71	4.31	0.33
29520-089	1.07	4.76	4.61	0.66
29522-046	3.16	3.40	3.07	0.81
29526-108	1.89	3.23	2.53	0.88
29526-110	0.88	5.81	5.33	1.47
29526-126	1.90	3.67	3.30	0.44
29526-147	2.47	3.81	1.80	0.41
29526-148	1.19	3.92	3.76	....

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
29527-015	0.77	4.47	4.99	....
29527-048	1.27	3.73	3.41	1.30
29527-057	1.03	5.52	4.89	0.55
29528-028	0.82	6.04	5.42	1.49
29528-030	2.47	3.45	4.40	0.51
29528-041	1.22	4.74	4.07	....
29529-054	3.44	1.31	2.39	1.42
29529-119	2.73	....	....	....
30301-024	1.35	4.38	4.04	....
30302-145	0.72	5.03	....	....
30303-090	1.59	4.93	....	....
30308-035	2.03	....	....	....
30308-062	1.18	4.48	....	....
30308-104	4.04	....	....	....
30310-023	1.76	4.16	4.24	0.42
30311-022	1.49	4.45	....	....
30311-068	3.63	5.67	5.19	0.83
30312-062	1.61	5.60	3.98	0.44
30312-165	1.90	6.67	....	....
30314-067	5.24	0.56	1.06	5.80
30314-177	1.25	4.41	3.93	0.56
30315-059	1.25	6.34	6.32	0.60
30315-060	0.36	6.90	7.11	....
30315-076	4.05	1.48	....	1.22
30315-093	2.00	1.87	1.63	0.37
30320-069	3.25	3.40	....	....
30320-075	1.34	5.33	4.60	0.33
30320-109	2.87	2.51	2.26	0.49
30322-007	4.85	2.96	....	1.05
30322-009	4.19	3.84	....	0.93
30322-066	5.26	1.97	....	0.96
30323-036	3.38	4.54	....	....
30323-047	1.82	3.77	2.91	....
30323-048	0.74	4.55	3.66	....
30323-088	1.77	5.05	3.79	0.26
30324-024	1.88	3.30	....	0.42
30324-045	1.06	5.02	4.93	....
30325-028	4.80	1.07	0.87	3.77
30325-094	3.10	1.19	0.97	1.17
30329-004	4.59	1.40	1.21	0.89
30331-060	1.84	3.16	3.14	1.56
30331-126	4.63	4.30	4.42	1.40
30332-012	1.56	4.16	3.22	1.43
30333-002	4.29	1.79	1.82	1.57
30333-047	4.59	3.96	3.30	1.07
30336-049	1.66	0.94	0.87	0.37
30336-067	1.88	1.94	1.62	0.80
30337-097	4.95	1.14	....	2.23
30338-119	4.38	1.36	....	....
30339-002	5.64	3.27	2.20	1.31

Table 6. Line-strength indices. Continued...

STAR	<i>KP</i> (Å)	<i>HP2</i> (Å)	<i>HG2</i> (Å)	<i>GP</i> (Å)
30339-019	2.94	4.97	4.56	1.55
30339-041	4.90	1.24	1.98	0.60
30339-046	1.44	3.74	4.44	0.81
30339-049	1.64	4.86	3.21	....
30339-069	0.97	5.13	4.63	....
30339-080	2.40	4.22	3.89	0.84
30343-044	4.46	1.65	1.32	2.28
30344-070	1.05	4.97	4.34	....
30344-075	3.70	1.88	1.74	1.92
30492-016	2.72	3.00	2.18	0.45
30493-001	4.69	3.96	3.15	1.18
30493-028	3.16	....	....	....
30493-071	2.60	4.00	3.26	0.67
30494-003	4.37	1.57	1.66	1.75
30494-016	2.69	4.70	4.06	0.84
31061-057	0.97	3.60	3.62	....
31061-062	2.68	4.08	4.01	0.91
31062-012	1.54	3.43	3.57	3.67
31063-050	3.65	3.86	3.54	1.33
31063-072	1.83	1.36	0.79	0.40
31064-031	1.96	4.08	4.38	1.51
31064-060	1.65	4.42	4.04	0.93
31064-113	5.06	0.88	3.93	7.74
31065-040	1.66	5.03	3.97	0.33
31066-001	3.97	3.05	....	1.31
31066-027	1.88	6.05	5.87	0.59
31067-019	3.06	2.99	2.57	0.83
31068-033	2.05	3.55	3.01	....
31068-042	2.00	1.03	0.59	0.55
31070-080	1.99	3.60	3.79	1.06
31072-118	4.93	1.11	....	1.34
31074-063	1.95	4.61	....	....
31076-028	2.74	2.89	2.26	0.77
31076-034	2.00	2.88	3.35	1.27
31079-004	2.61	4.11	3.69	0.43
31080-095	1.70	2.48	3.09	5.21
31081-003	8.23	2.67	3.16	4.15
31081-049	4.93	0.31	....	1.23
31081-059	1.02	4.47	4.18	0.46
31082-001	4.89	0.73	0.85	2.79
31083-069	6.28	4.39	....	0.96
31084-022	2.53	4.15	3.79	0.47
31085-024	2.82	3.52	....	....
31087-013	1.50	3.99	3.47	0.48
31087-045	2.41	4.24	....	0.66
31089-055	2.18	4.47	3.70	0.50
31090-086	2.91	4.13	3.99	0.95

Table 7. [Fe/H] values from different methods, plus adopted average

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
15621-006	-1.58	-1.80	-1.76	-1.86	-1.75	
15621-024	-1.67	-1.81	-1.67	-1.81	-1.74	
15621-051	.....	.....	-2.04	-2.10	-2.07	
15621-058	.....	.....	.....	.....	.....
15621-070	-0.81	-1.63	-1.02	-1.68	-0.92	
15621-073	-2.04	-2.12	-2.04	-2.06	-2.06	
15621-077	-2.17	-2.25	-2.17	-2.29	-2.22	
15622-055	-1.55	-1.92	-1.96	-2.10	-1.88	
15623-023	-2.54	-2.50	.....	.....	-2.52	
15624-040	-2.04	-2.04	-1.90	-1.95	-1.98	
16026-006	-2.57	-2.59	-2.57	-2.59	-2.58	
16026-040	-1.97	-2.03	-1.78	-2.00	-1.95	
16026-068	-1.97	-2.05	-1.78	-1.99	-1.95	
16026-073	.....	.....	-1.15	-1.76	-1.15	
16027-003	-1.58	-1.78	-1.76	-1.86	-1.75	
16027-029	-2.36	-2.38	-2.36	-2.41	-2.38	
16027-043	-2.87	-2.76	-2.79	-2.62	-2.76	
16027-046	-2.49	-2.59	-2.39	-2.42	-2.47	
16027-049	-2.16	-2.14	-2.04	-2.04	-2.10	
16027-073	-2.02	-2.02	-2.02	-2.02	-2.02	
16033-008	-2.77	-2.77	-2.66	-2.71	-2.73	
16033-081	-2.75	-2.64	-2.91	-2.79	-2.77	
16076-006	-2.95	-3.18	-2.91	-3.08	-3.03	
16076-040	-2.12	-2.13	-1.77	-2.00	-2.00	
16076-050	-2.31	-2.36	-2.31	-2.39	-2.34	
16077-007	-2.79	-2.69	-2.45	-2.44	-2.59	
16077-023	-2.36	-2.37	-2.36	-2.41	-2.38	
16081-038	-1.38	-1.88	.....	.....	-1.38	
16083-019	-1.70	-1.93	.....	.....	-1.81	
16083-096	-2.19	-2.21	.....	.....	-2.20	
16084-160	-3.33	-3.15	-3.33	-3.15	-3.24	
16085-050	-2.86	-2.77	-2.86	-2.79	-2.82	
16089-013	-2.69	-2.61	-2.78	-2.67	-2.69	
16089-042	-2.04	-2.08	-1.87	-1.99	-2.00	
16089-086	-2.02	-2.15	-1.68	-1.94	-1.95	
16090-038	.....	.....	.....	.....	.....
16468-009	-2.54	-2.54	.....	.....	-2.54	
16469-075	-2.93	-2.91	-3.20	-3.03	-3.02	
16470-007	-2.61	-2.60	-2.81	-2.76	-2.69	
16470-061	-2.02	-2.16	-2.30	-2.26	-2.18	
16470-062	-1.64	-1.57	-1.83	-1.90	-1.73	
16472-092	-2.60	-2.52	-2.36	-2.38	-2.46	
16477-038	-2.50	-2.50	-2.50	-2.53	-2.51	
16479-065	-1.76	-1.83	.....	.....	-1.79	
16541-022	-1.42	-1.86	-2.04	-2.11	-1.86	
16541-052	.....	.....	.....	.....	.....
16543-068	-1.84	-1.96	.....	.....	-1.90	
16543-097	-2.55	-2.53	-2.55	-2.53	-2.54	
16546-075	-2.06	-2.03	-2.06	-2.06	-2.05	
16546-098	-1.56	-1.91	-1.56	-1.91	-1.73	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
16547-049	-2.50	-2.48	-2.60	-2.59	-2.54	
16548-009	.....	.....	.....	.....	.....	1
16548-070	-2.13	-2.14	-2.24	-2.29	-2.20	
16549-007	-2.40	-2.38	.....	.....	-2.39	
16549-017	-2.44	-2.44	-2.32	-2.41	-2.40	
16549-043	-2.35	-2.31	.....	.....	-2.33	
16550-014	-2.22	-2.23	-2.22	-2.20	-2.22	
16550-043	-2.87	-2.78	-2.79	-2.71	-2.79	
16551-118	-2.78	-2.98	.....	.....	-2.88	
16552-042	-2.69	-2.71	-2.50	-2.53	-2.61	
16552-086	-2.71	-2.93	-2.82	-3.09	-2.89	
16557-012	-1.90	-1.98	-1.90	-1.95	-1.93	
16557-024	-1.45	-1.58	-1.58	-1.63	-1.55	
16557-063	.....	.....	.....	.....	.....
16557-074	-2.54	-2.52	-2.32	-2.38	-2.44	
16558-001	-1.84	-1.94	-2.08	-2.06	-1.98	
16558-021	-1.70	-1.88	-1.90	-1.97	-1.86	
16920-017	-3.28	-3.12	-3.28	-3.12	-3.20	
16927-017	-2.61	-2.60	.....	.....	-2.60	
16927-063	.....	.....	.....	.....	.....
16928-053	-3.10	-2.89	-3.15	-2.91	-3.01	
16929-005	-2.84	-2.89	-2.74	-2.83	-2.83	
16929-035	-2.79	-2.77	-2.79	-2.77	-2.78	
16934-002	-2.65	-2.65	-2.73	-2.74	-2.69	
16934-018	-2.30	-2.31	-2.40	-2.41	-2.35	
16934-060	-3.20	-3.38	-3.15	-3.32	-3.26	
16968-061	-2.57	-2.53	-2.79	-2.67	-2.64	
16972-003	-2.50	-2.42	-2.60	-2.49	-2.50	
16972-009	-2.44	-2.44	-2.44	-2.48	-2.45	
16972-013	-1.67	-1.82	-1.96	-1.94	-1.85	
16972-041	-2.12	-2.12	-1.96	-2.09	-2.07	
16986-072	-1.50	-1.53	-1.99	-2.04	-1.77	
17136-014	-1.10	-1.75	-1.56	-1.86	-1.51	
17139-007	-2.30	-2.29	.....	.....	-2.29	
17435-003	-2.79	-2.67	-2.79	-2.74	-2.75	
17435-024	-2.54	-2.70	.....	.....	-2.62	
17438-020	-2.70	-2.75	-2.78	-2.92	-2.79	
17438-082	.....	.....	-1.99	-2.21	-2.10	
17439-054	-0.38	-1.00	-1.03	-1.27	-0.71	
17439-055	.....	.....	-0.94	-1.72	-0.94	
17439-065	-2.19	-2.13	-2.28	-2.21	-2.20	
17444-032	-2.30	-2.28	-2.17	-2.22	-2.24	
17444-046	-1.36	-1.54	-1.18	-1.44	-1.27	
17444-059	-1.21	-1.60	-0.87	-1.57	-1.04	
17448-016	.....	.....	.....	.....	.....
17448-033	.....	.....	.....	.....	.....
17569-011	.....	.....	.....	.....	.....	2
17570-009	-2.31	-2.29	-2.06	-2.04	-2.17	
17570-011	-2.44	-2.38	-2.17	-2.28	-2.32	
17572-057	-1.78	-1.83	-2.07	-2.15	-1.96	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
17572-067	-1.48	-1.67	-1.48	-1.70	-1.48	
17572-100	-2.17	-2.28	.....	.....	-2.22	
17574-129	-2.04	-2.08	-2.04	-2.02	-2.04	
17575-163	.....	.....	.....	.....	.....
17575-168	-2.10	-2.15	-1.78	-1.97	-2.00	
17575-169	.....	.....	.....	.....	.....
17576-002	-1.48	-1.71	-1.48	-1.71	-1.48	
17576-027	-2.40	-2.44	-2.35	-2.37	-2.39	
17576-043	.....	.....	-1.68	-1.97	-1.82	
17576-071	-1.90	-1.99	-1.70	-1.92	-1.88	
17577-010	.....	.....	.....	.....	.....
17577-012	.....	.....	.....	.....	.....
17578-056	.....	.....	.....	.....	.....
17579-012	.....	.....	.....	.....	.....
17581-075	-0.44	-1.54	-1.76	-1.90	-1.37	
17581-077	-1.42	-1.91	.....	.....	-1.42	
17581-078	.....	.....	-2.02	-2.13	-2.08	
17581-113	-1.26	-1.47	-1.57	-1.60	-1.48	
17582-050	.....	.....	.....	.....	.....
17582-096	-1.96	-2.04	-2.12	-2.13	-2.06	
17582-113	-1.48	-1.75	-1.66	-1.78	-1.64	
17583-067	.....	.....	.....	.....	.....
17583-100	-2.30	-2.33	-2.20	-2.23	-2.27	
17585-132	.....	.....	-2.02	-2.13	-2.08	
17586-014	-1.75	-1.64	-1.97	-1.83	-1.80	
17586-048	-1.29	-1.80	-1.56	-1.86	-1.57	
22166-024	-1.96	-2.07	-1.96	-2.07	-2.01	
22166-030	-3.00	-3.03	-3.08	-3.10	-3.05	
22169-002	-2.04	-2.01	-2.13	-2.13	-2.08	
22169-008	-2.40	-5.07	-2.16	-2.25	-2.97	
22169-019	-2.06	-2.17	-1.88	-2.11	-2.06	
22169-035	-3.18	-2.99	-3.28	-3.09	-3.13	
22170-021	-2.39	-2.43	-2.02	-2.19	-2.26	
22171-009	-2.50	-2.55	-2.60	-2.58	-2.56	
22171-016	-2.69	-2.64	-2.50	-2.54	-2.59	
22171-031	-1.68	-2.05	-1.88	-2.12	-1.93	
22171-034	-2.12	-2.18	-1.96	-2.06	-2.08	
22171-037	-3.59	-2.35	-3.31	-3.25	-3.12	
22172-002	-3.25	-3.33	-3.25	-3.33	-3.29	
22172-019	-1.66	-1.97	-1.42	-1.88	-1.68	
22172-033	-1.90	-1.97	-2.19	-2.25	-2.08	
22172-035	-1.29	-1.84	-1.78	-1.96	-1.68	
22173-002	-2.12	-2.16	-1.77	-2.00	-2.01	
22173-014	-2.02	-2.15	-1.83	-2.09	-2.02	
22173-015	-2.04	-2.08	-1.90	-1.96	-1.99	
22174-007	-2.45	-2.43	-2.55	-2.52	-2.49	
22174-020	-2.79	-3.50	-2.70	-2.55	-2.88	
22175-013	-2.44	-2.36	-2.17	-2.26	-2.31	
22176-018	-0.83	-1.27	-1.39	-1.50	-1.11	
22177-009	-3.00	-2.62	-2.91	-2.95	-2.87	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
22177-010	-2.60	-3.02	-2.36	-2.38	-2.59	
22180-005	-2.26	-2.28	-2.13	-2.18	-2.21	
22180-014	-2.30	-2.52	-2.20	-2.25	-2.32	
22180-034	-2.20	-2.24	-2.06	-2.14	-2.16	
22180-036	-2.62	-2.86	-2.17	-2.26	-2.48	
22182-022	-2.12	-2.17	-1.77	-2.01	-2.02	
22182-033	-2.30	-2.32	-2.20	-2.21	-2.26	
22182-047	-1.96	-1.97	-1.84	-1.88	-1.91	
22185-006	-2.04	-2.07	-1.87	-2.04	-2.00	
22185-007	-2.38	-2.44	-2.49	-2.47	-2.45	
22185-025	-2.57	-2.55	-2.57	-2.62	-2.58	
22186-002	-2.35	-2.27	-2.22	-2.24	-2.27	
22186-005	-2.79	-2.75	-2.70	-2.64	-2.72	
22186-017	-2.69	-2.41	-2.69	-2.60	-2.60	
22186-020	-2.12	-2.16	-2.12	-2.13	-2.13	
22186-023	-2.66	-2.67	.....	.....	-2.67	
22186-025	-2.65	-2.61	-2.75	-2.66	-2.67	
22188-006	-1.37	-1.79	-1.84	-1.90	-1.70	
22188-033	-3.15	-3.00	-3.08	-2.93	-3.04	
22188-048	-3.84	-3.85	-3.96	-3.87	-3.88	3
22189-009	-3.22	-3.38	-3.68	-3.57	-3.46	
22189-018	-2.79	-2.79	-2.79	-2.82	-2.80	
22189-036	-2.22	-2.20	-2.12	-2.11	-2.16	
22190-007	-2.22	-2.28	-2.22	-2.21	-2.23	
22191-019	-2.06	-2.16	-2.06	-2.16	-2.11	
22191-024	-2.29	-2.13	-2.14	-2.00	-2.14	
22191-029	-2.54	-2.50	-2.44	-2.46	-2.49	
22871-084	.....	.....	.....	.....	.....
22871-107	-2.32	-2.38	-2.32	-2.38	-2.35	
22872-010	-2.17	-2.29	-2.17	-2.32	-2.24	
22872-036	-2.54	-2.56	-2.32	-2.35	-2.44	
22872-079	-2.54	-2.45	-2.32	-2.35	-2.42	
22872-102	-2.54	-2.56	-2.32	-2.30	-2.43	
22873-055	-2.59	-2.63	-2.65	-2.67	-2.63	
22873-072	-2.22	-2.43	-2.36	-2.48	-2.37	
22873-128	-2.50	-2.50	-2.50	-2.56	-2.52	
22873-139	-3.03	-2.38	-3.03	-3.13	-2.89	
22873-166	-2.65	-2.69	-2.82	-2.83	-2.75	
22874-012	.....	.....	.....	.....	.....
22875-029	-2.44	-2.43	-2.44	-2.43	-2.44	
22876-029	-3.00	-2.88	-2.67	-2.62	-2.79	
22876-032	-3.59	-3.13	-3.51	-3.85	-3.52	
22876-034	-1.01	-1.64	-1.34	-1.72	-1.18	
22876-039	-2.67	-2.54	.....	.....	-2.60	
22876-042	-2.02	-2.14	-1.83	-2.08	-2.02	
22877-011	-2.46	-2.56	-2.46	-2.56	-2.51	
22877-013	-2.25	-3.97	-2.19	-2.21	-2.66	
22877-015	-2.10	-2.08	-1.56	-1.87	-1.90	
22877-051	-2.36	-2.25	.....	.....	-2.30	
22878-002	-2.40	-2.43	-2.30	-2.30	-2.36	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
22878-003	-2.04	-2.10	-1.87	-2.03	-2.01	
22878-013	-1.66	-1.96	-1.87	-2.02	-1.88	
22878-027	-2.69	-2.33	-2.50	-2.53	-2.51	
22879-012	-2.57	-2.67	-2.57	-2.57	-2.60	
22879-029	-1.96	-2.57	-2.12	-2.16	-2.20	
22879-051	-2.36	-2.10	-2.36	-2.44	-2.31	
22879-092	-2.91	-2.82	-2.91	-2.82	-2.87	
22880-013	-2.50	-2.40	-2.36	-2.37	-2.41	
22880-058	-2.79	-2.73	-2.45	-2.51	-2.62	
22880-067	-2.84	-2.87	-2.75	-2.69	-2.79	
22880-109	-2.12	-2.18	-2.12	-2.18	-2.15	
22881-032	.....	.....	-2.79	-2.68	-2.74	
22881-036	-2.45	-2.37	-2.39	-2.45	-2.42	
22881-039	-3.03	-3.10	-3.24	-3.21	-3.15	
22881-070	-2.45	-2.49	-2.70	-2.56	-2.55	
22882-008	-2.50	-2.54	-2.50	-2.51	-2.51	
22882-012	-2.60	-2.58	-2.50	-2.50	-2.54	
22882-027	-2.91	-2.80	-3.08	-2.94	-2.93	
22882-030	-2.60	-2.60	-2.50	-2.53	-2.56	
22883-004	-1.90	-1.94	-1.90	-1.97	-1.93	
22883-020	-2.44	-2.40	-2.32	-2.33	-2.37	
22884-006	.....	.....	.....	.....	.....
22884-033	-2.91	-2.39	-2.79	-2.84	-2.73	
22884-108	-2.91	-2.88	-2.91	-2.87	-2.89	
22885-034	-2.36	-2.35	-2.36	-2.35	-2.35	
22885-096	-3.00	-3.29	-3.00	-3.23	-3.13	
22885-143	-2.51	-2.38	-2.41	-2.35	-2.41	
22886-012	-2.39	-2.38	-2.30	-2.34	-2.35	
22887-005	-2.30	-2.28	.....	.....	-2.29	
22887-048	-1.24	-1.78	.....	.....	-1.24	
22888-014	-2.30	-2.83	-2.30	-2.26	-2.42	
22888-031	-3.08	-2.26	-3.08	-3.05	-2.87	
22889-050	-2.60	-2.48	.....	.....	-2.54	
22890-011	-2.17	-3.12	-2.17	-2.29	-2.44	
22890-064	-2.69	-2.58	-2.36	-2.38	-2.50	
22890-074	.....	.....	.....	.....	.....
22891-047	-3.00	-2.91	.....	.....	-2.96	
22891-171	-2.61	-2.67	-3.14	-3.03	-2.86	
22891-200	-3.07	-2.98	-3.14	-3.00	-3.05	
22891-209	-3.14	-2.99	-3.07	-2.92	-3.03	
22892-025	-2.17	-2.29	-2.32	-2.39	-2.29	
22892-041	-1.96	-2.11	-1.77	-2.02	-1.96	
22893-005	-2.19	-2.32	-2.25	-2.27	-2.26	
22893-015	-2.69	-2.21	-2.69	-2.55	-2.54	
22893-030	-2.30	-2.58	-2.30	-2.34	-2.38	
22894-019	-2.54	-2.31	-2.54	-2.54	-2.48	
22894-023	-2.79	-2.62	-2.70	-2.58	-2.67	
22894-049	-2.30	-2.54	-2.20	-2.24	-2.32	
22898-023	-2.60	-2.59	-2.60	-2.55	-2.58	
22898-027	-2.61	-2.34	-2.61	-2.58	-2.53	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
22898-043	-2.69	-2.63	-2.60	-2.52	-2.61	
22898-047	-2.54	-2.65	-2.54	-2.59	-2.58	
22936-242	-2.44	-2.38	-2.44	-2.41	-2.42	
22937-087	.....	.....	.....	.....	.....
22939-272	-2.45	-2.54	-2.39	-2.47	-2.46	
22941-015	-2.50	-2.45	.....	.....	-2.48	
22941-027	-2.57	-2.47	-2.57	-2.44	-2.51	
22942-024	-2.36	-2.59	-2.60	-2.51	-2.51	
22943-059	-2.36	-2.35	.....	.....	-2.35	
22943-095	-2.02	-2.37	.....	.....	-2.20	
22943-132	-2.29	-2.19	.....	.....	-2.24	
22943-137	-3.32	-3.17	.....	.....	-3.25	
22943-201	-2.32	-2.33	.....	.....	-2.33	
22944-011	-2.06	-2.17	-1.68	-2.07	-2.00	
22944-014	-2.39	-2.29	-2.02	-2.16	-2.21	
22944-061	-2.65	-2.39	-2.44	-2.38	-2.46	
22945-017	-2.79	-2.69	-2.91	-2.81	-2.80	
22945-063	-2.29	-2.67	-2.12	-2.21	-2.32	
22946-011	-3.03	-3.21	-2.91	-3.14	-3.07	
22946-014	-2.06	-2.13	-1.88	-2.07	-2.03	
22947-114	-1.23	-1.38	-1.39	-1.43	-1.31	
22947-302	-2.49	-2.46	-2.69	-2.57	-2.55	
22948-027	-3.24	-3.33	-3.17	-3.54	-3.32	
22948-043	.....	.....	.....	.....	.....
22948-093	-3.81	-3.90	-3.62	-3.80	-3.78	
22948-104	-2.36	-2.41	-2.36	-2.44	-2.39	
22949-007	-2.87	-2.69	-2.79	-2.66	-2.75	
22949-008	-2.20	-2.37	-2.30	-2.36	-2.31	
22949-029	-2.10	-2.12	-1.97	-2.09	-2.07	
22949-030	-2.44	-2.19	-2.44	-2.46	-2.38	
22949-037	-3.56	-3.60	-3.46	-3.58	-3.55	
22949-048	-2.97	-2.90	-3.28	-3.12	-3.07	
22949-052	-2.17	-2.26	-2.02	-2.17	-2.15	
22950-046	-3.52	-3.29	.....	.....	-3.41	
22950-063	-2.65	-2.58	-2.45	-2.47	-2.54	
22950-078	-2.32	-2.42	-2.17	-2.35	-2.31	
22950-096	-1.84	-1.94	-1.62	-1.88	-1.82	
22950-153	-1.73	-1.81	-1.84	-1.83	-1.80	
22950-173	-2.70	-2.67	-2.70	-2.67	-2.69	
22951-060	.....	.....	.....	.....	.....
22952-004	-1.88	-2.08	-1.88	-2.11	-1.99	
22952-011	-2.70	-2.49	-2.70	-2.69	-2.65	
22952-015	-3.15	-3.24	-3.44	-3.40	-3.31	
22953-037	-2.79	-2.69	-2.79	-2.89	-2.79	
22954-004	-2.32	-2.85	-2.44	-2.48	-2.52	
22955-032	-2.37	-2.45	.....	.....	-2.41	
22955-054	.....	.....	.....	.....	.....
22955-117	-2.17	-2.25	-2.02	-2.22	-2.17	
22955-174	-2.29	-2.38	-2.22	-2.31	-2.30	
22956-017	.....	.....	.....	.....	.....

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
22957-019	-1.68	-1.82	-2.06	-2.16	-1.93	
22957-022	-2.61	-2.62	-2.44	-2.46	-2.53	
22957-024	-2.57	-2.06	-2.57	-2.55	-2.44	
22958-037	-2.46	-2.55	.....	.....	-2.50	
22958-041	-2.79	-2.55	.....	.....	-2.67	
22958-042	-2.94	-2.81	-2.94	-3.04	-2.93	
22958-052	-1.99	-3.01	.....	.....	-2.50	
22958-065	-2.30	-2.22	.....	.....	-2.26	
22958-074	-2.06	-2.31	.....	.....	-2.19	
22959-231	-2.12	-2.13	.....	.....	-2.12	
22960-053	-2.95	-2.98	-3.37	-3.21	-3.13	
22960-060	-1.83	-2.04	.....	.....	-1.94	
22961-002	-2.69	-2.65	.....	.....	-2.67	
22961-021	-2.54	-2.58	-2.54	-2.55	-2.55	
22961-023	-2.57	-2.62	-2.79	-2.76	-2.68	
22961-054	-1.48	-1.75	-1.66	-1.78	-1.64	
22962-021	-1.96	-2.05	-2.35	-2.38	-2.18	
22963-004	-2.98	-2.19	-3.01	-3.13	-2.83	
22964-176	-2.44	-2.36	-2.32	-2.30	-2.35	
22964-183	-2.36	-2.39	-2.36	-2.39	-2.38	
22964-214	-2.36	-3.06	-2.22	-2.34	-2.50	
22965-029	-2.19	-2.18	-2.26	-2.31	-2.23	
22965-035	-1.88	-2.08	.....	.....	-1.98	
22965-054	-3.32	-3.23	-3.43	-3.37	-3.34	
22965-075	-1.77	-2.05	.....	.....	-1.91	
22966-011	-2.87	-2.73	-2.87	-2.73	-2.80	
22966-019	-2.30	-2.29	.....	.....	-2.29	
22966-048	-2.45	-2.54	.....	.....	-2.50	
22966-057	-2.12	-2.13	-2.37	-2.31	-2.23	
22967-019	.....	.....	-2.91	-2.81	-2.86	
22968-001	-2.69	-2.45	-2.50	-2.48	-2.53	
22968-014	-3.22	-3.36	-3.56	-3.50	-3.41	
22968-026	-1.68	-2.63	-2.20	-2.20	-2.18	
22968-029	-2.94	-2.04	-2.79	-2.70	-2.62	
29491-053	-2.98	-2.71	-2.89	-2.69	-2.82	
29491-069	-2.40	-2.40	-2.40	-2.40	-2.40	
29491-076	-1.21	-1.60	-1.48	-1.71	-1.34	
29491-084	-2.79	-2.73	-2.91	-2.84	-2.82	
29491-100	-2.29	-2.35	-2.22	-2.25	-2.28	
29493-023	-2.36	-2.36	-2.36	-2.39	-2.37	
29493-050	-2.57	-2.88	-2.57	-2.59	-2.65	
29493-062	-2.16	-2.56	-2.16	-2.17	-2.26	
29493-094	-2.17	-2.23	-2.32	-2.40	-2.28	
29494-020	-2.54	-2.59	-2.61	-2.63	-2.59	
29495-005	-2.06	-2.15	-1.88	-2.12	-2.05	
29495-041	-2.59	-2.50	-2.86	-2.70	-2.66	
29497-026	.....	.....	.....	.....	.....
29497-030	.....	.....	.....	.....	.....
29498-043	-3.62	-3.58	-3.56	-3.72	-3.62	
29499-003	-1.88	-2.36	-1.68	-2.03	-1.99	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
29499-058	-2.54	-2.52	-2.32	-2.42	-2.45	
29499-060	-3.00	-2.10	-2.79	-2.83	-2.68	
29499-065	-2.87	-2.69	-2.70	-2.55	-2.70	
29501-051	-2.13	-2.94	-2.19	-2.21	-2.37	
29502-092	-2.82	-2.81	-2.82	-2.83	-2.82	
29503-017	-1.62	-1.85	.....	.....	-1.74	
29503-026	-1.45	-1.73	.....	.....	-1.45	
29504-006	-2.91	-2.15	-2.91	-2.82	-2.70	
29504-018	-2.57	-2.60	-2.70	-2.67	-2.63	
29505-013	-2.19	-2.23	-2.26	-2.27	-2.24	
29506-007	-2.45	-2.82	-2.57	-2.57	-2.60	
29506-090	-2.79	-2.50	-2.79	-2.71	-2.70	
29509-027	.....	.....	.....	.....	.....
29509-032	-2.45	-2.41	-2.70	-2.59	-2.54	
29509-047	-2.02	-2.18	.....	.....	-2.10	
29510-054	-2.40	-2.46	-2.40	-2.39	-2.41	
29512-006	-1.78	-1.96	-1.97	-2.09	-1.95	
29512-013	-1.84	-2.67	.....	.....	-2.25	
29512-015	-2.44	-2.08	-2.54	-2.52	-2.40	
29512-030	-2.50	-2.49	.....	.....	-2.50	
29512-043	-1.90	-1.99	.....	.....	-1.94	
29512-076	-1.97	-2.04	.....	.....	-2.00	
29512-081	+0.06	-2.38	.....	.....	+0.06	
29513-014	-1.88	-1.90	.....	.....	-1.89	
29513-015	-1.83	-1.11	-1.83	-2.15	-1.73	
29513-031	.....	.....	-2.79	-2.64	-2.71	
29514-007	-2.79	-2.09	.....	.....	-2.44	
29514-018	-2.17	-2.72	.....	.....	-2.45	
29514-037	-1.99	-2.32	.....	.....	-2.15	
29515-060	-2.08	-2.12	.....	.....	-2.10	
29516-028	-2.98	-2.93	-2.87	-2.79	-2.89	
29517-042	-2.02	-2.21	-2.02	-2.18	-2.11	
29518-005	-2.79	-2.68	.....	.....	-2.74	
29518-020	-2.91	-2.81	-3.00	-2.92	-2.91	
29518-027	-1.06	-1.50	.....	.....	-1.06	
29518-033	.....	.....	.....	.....	.....
29518-039	.....	.....	.....	.....	.....
29518-043	-3.31	-3.35	-3.31	-3.43	-3.35	
29518-045	-1.54	-1.80	-1.76	-1.86	-1.74	
29518-051	-2.35	-2.39	-2.35	-2.39	-2.37	
29519-080	-2.54	-2.43	-2.44	-2.36	-2.44	
29519-132	-2.32	-2.36	.....	.....	-2.34	
29519-133	-2.60	-2.61	-2.50	-2.51	-2.55	
29520-089	-2.79	-2.81	-2.91	-2.92	-2.86	
29522-046	-2.16	-2.15	-1.87	-1.99	-2.04	
29526-108	-2.70	-2.78	.....	.....	-2.74	
29526-110	-2.91	-2.92	-3.03	-3.04	-2.97	
29526-126	-2.54	-2.53	.....	.....	-2.54	
29526-147	-2.30	-2.25	.....	.....	-2.27	
29526-148	-3.00	-2.84	.....	.....	-2.92	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
29527-015	-3.24	-2.20	-3.15	-3.31	-2.98	
29527-048	-2.94	-3.02	-2.94	-2.99	-2.97	
29527-057	-2.67	-2.71	.....	.....	-2.69	
29528-028	-2.91	-3.01	-3.03	-3.08	-3.01	
29528-030	-2.30	-2.25	.....	.....	-2.27	
29528-041	-3.00	-2.85	-3.00	-2.85	-2.92	
29529-054	-2.25	-2.24	-2.31	-2.30	-2.28	
29529-119	-2.20	-2.20	-2.06	-2.14	-2.15	
30301-024	-2.57	-2.53	-2.70	-2.64	-2.61	
30302-145	-3.31	-3.32	-3.31	-3.25	-3.30	
30303-090	-2.36	-2.41	-2.36	-2.45	-2.39	
30308-035	-3.00	-3.25	-3.00	-3.28	-3.13	
30308-062	-2.79	-2.67	-2.91	-2.81	-2.80	
30308-104	-1.26	-1.77	-1.76	-1.88	-1.63	
30310-023	-2.54	-2.56	.....	.....	-2.55	
30311-022	-2.79	-2.61	-2.57	-2.51	-2.62	
30311-068	-0.94	-1.69	.....	.....	-0.94	
30312-062	-2.36	-3.38	.....	.....	-2.87	
30312-165	.....	.....	.....	.....	.....
30314-067	-2.96	-2.95	-3.00	-3.12	-3.01	
30314-177	-2.79	-2.79	-2.70	-2.72	-2.75	
30315-059	-2.45	-2.57	.....	.....	-2.51	
30315-060	.....	.....	.....	.....	.....
30315-076	-2.26	-2.28	-2.34	-2.35	-2.31	
30315-093	-2.58	-2.73	-2.58	-2.73	-2.66	
30320-069	-2.19	-2.22	-1.97	-2.10	-2.12	
30320-075	.....	.....	-2.45	-2.50	-2.48	
30320-109	-2.29	-2.33	-2.35	-2.39	-2.34	
30322-007	-1.21	-1.62	-1.80	-1.85	-1.62	
30322-009	-1.92	-1.91	-1.76	-1.82	-1.85	
30322-066	-1.73	-1.84	-1.84	-1.93	-1.83	
30323-036	-2.10	-2.10	-1.78	-1.97	-1.99	
30323-047	-2.44	-2.43	-2.54	-2.57	-2.50	
30323-048	-3.42	-3.36	-3.42	-3.32	-3.38	
30323-088	-2.02	-2.22	-2.44	-2.46	-2.29	
30324-024	-2.65	-2.72	-2.70	-2.79	-2.71	
30324-045	-2.79	-2.82	.....	.....	-2.80	
30325-028	-2.69	-2.60	-2.78	-2.65	-2.68	
30325-094	-2.88	-2.92	-2.88	-2.89	-2.89	
30329-004	-2.55	-2.51	-2.65	-2.60	-2.58	
30331-060	-2.61	-2.60	.....	.....	-2.60	
30331-126	-1.01	-1.61	.....	.....	-1.01	
30332-012	-2.50	-2.54	-2.75	-2.82	-2.65	
30333-002	-2.12	-2.10	-1.67	-1.80	-1.92	
30333-047	-1.58	-1.73	-1.88	-1.91	-1.77	
30336-049	-3.69	-3.69	-3.82	-3.73	-3.73	
30336-067	-2.78	-2.92	-2.82	-2.99	-2.88	
30337-097	-2.69	-2.58	-2.59	-2.51	-2.59	
30338-119	-2.29	-2.27	-2.21	-2.20	-2.24	
30339-002	-1.17	-1.55	.....	.....	-1.17	

Table 7. [Fe/H] values. Continued...

STAR	[Fe/H] _{K1}	[Fe/H] _{A1}	[Fe/H] _{K2}	[Fe/H] _{A2}	[Fe/H] _F	NOTES
30339-019	-1.77	-2.02	.....	.....	-1.90	
30339-041	-1.80	-1.86	-2.18	-2.11	-1.99	
30339-046	-2.70	-2.58	-2.79	-2.65	-2.68	
30339-049	-2.36	-2.35	.....	.....	-2.35	
30339-069	-2.91	-2.44	-3.03	-2.96	-2.83	
30339-080	-2.17	-2.81	-2.02	-2.14	-2.29	
30343-044	-2.12	-2.09	-2.29	-2.22	-2.18	
30344-070	-3.00	-3.02	-2.79	-2.87	-2.92	
30344-075	-2.45	-2.53	-2.40	-2.40	-2.45	
30492-016	-2.30	-2.33	-2.20	-2.24	-2.27	
30493-001	-1.01	-1.63	.....	.....	-1.01	
30493-028	-2.36	-2.38	-2.24	-2.28	-2.31	
30493-071	-2.30	-2.20	-2.20	-2.21	-2.23	
30494-003	-2.12	-2.14	.....	.....	-2.13	
30494-016	-2.20	-2.18	.....	.....	-2.19	
31061-057	-3.03	-2.92	.....	.....	-2.97	
31061-062	-1.53	-1.93	-2.20	-2.25	-1.98	
31062-012	-2.75	-2.79	-2.75	-2.83	-2.78	
31063-050	-1.70	-1.88	-2.04	-2.03	-1.91	
31063-072	-2.54	-2.57	-2.61	-2.60	-2.58	
31064-031	.....	.....	.....	.....	.....
31064-060	-2.60	-2.56	.....	.....	-2.58	
31064-113	-2.81	-2.66	.....	.....	-2.74	
31065-040	-2.60	-2.51	-2.50	-2.44	-2.51	
31066-001	-2.15	-2.14	-2.15	-2.14	-2.15	
31066-027	-2.02	-2.20	.....	.....	-2.11	
31067-019	-2.24	-2.27	-1.42	-1.90	-1.98	
31068-033	-2.40	-2.40	-2.40	-2.43	-2.41	
31068-042	-2.71	-2.93	-2.71	-2.96	-2.83	
31070-080	.....	.....	.....	.....	.....
31072-118	-3.15	-2.89	-3.21	-2.98	-3.06	
31074-063	-2.44	-2.41	.....	.....	-2.42	
31076-028	-2.42	-2.46	-2.42	-2.43	-2.43	
31076-034	-2.48	-2.56	-2.40	-2.49	-2.48	
31079-004	-1.68	-2.04	-1.88	-2.11	-1.93	
31080-095	-2.81	-2.81	-2.88	-2.95	-2.86	
31081-003	-1.35	-1.33	-1.79	-1.77	-1.64	
31081-049	-3.00	-3.00	-3.00	-3.00	-3.00	
31081-059	-2.91	-2.97	.....	.....	-2.94	
31082-001	-2.69	-2.58	-2.86	-2.70	-2.71	
31083-069	-1.26	-1.53	-1.57	-1.61	-1.48	
31084-022	-1.88	-2.13	.....	.....	-2.00	
31085-024	-2.51	-2.67	-2.40	-2.51	-2.52	
31087-013	-2.60	-2.61	-2.81	-2.89	-2.73	
31087-045	-2.17	-2.20	-2.39	-2.40	-2.29	
31089-055	-2.16	-2.21	-2.30	-2.31	-2.25	
31090-086	-1.96	-2.09	.....	.....	-2.02	

Notes: 1. – Late-type star, CaII-K emission
2. – Composite spectrum (Early + Late)
3. – CD-38:245

Table 8. A. Metal-rich BS (Am) stars – observed quantities

STAR	V	$b-y$	m_1	c_1	$H\beta$	$[c_1]$	$[m_1]$	V	$B-V$	$U-B$
17438-082	13.277	0.236	0.227	0.668	2.687	0.621	0.298	13.26	0.39	....
17448-016	10.289	0.210	0.214	0.701	2.736	0.659	0.277	....	....	....
17575-163	12.617	0.317	0.190	0.744	2.735	0.681	0.285	12.61	0.44	0.22
17575-169	12.378	0.291	0.197	0.739	2.749	0.681	0.284	12.37	0.42	0.21
17576-043	9.950	0.216	0.220	0.689	2.730	0.646	0.285	9.98	0.34	0.12
17577-010	10.717	0.219	0.203	0.675	2.747	0.631	0.269	....	....	....
17578-056	9.910	0.225	0.211	0.706	2.753	0.661	0.278	9.92	0.38	0.14
17581-078	10.687	0.191	0.230	0.693	2.733	0.655	0.287	10.68	0.34	0.15
17583-067	12.582	0.237	0.226	0.681	2.734	0.634	0.297	12.56	0.39	0.29
17585-132	12.391	0.522	0.148	0.731	2.729	0.627	0.305	12.38	0.69	0.41

Table 8. B. Metal-rich BS (Am) stars – derived quantities

STAR	$E(B-V)_A$	$(B-V)_0$	$(U-B)_0$	V_0	$(b-y)_0$	m_0	c_0	Class.	$[\text{Fe}/\text{H}]_F$
17438-082	0.05	0.34	....	13.117	0.199	0.238	0.661	BS	-2.10
17448-016	0.03	(0.37)	....	10.193	0.188	0.221	0.697	BS	....
17575-163	0.18	0.26	0.09	12.041	0.184	0.230	0.717	BS	....
17575-169	0.17	0.25	0.09	11.834	0.165	0.234	0.714	BS	....
17576-043	0.03	0.31	0.10	9.854	0.194	0.227	0.684	BS	-1.82
17577-010	0.04	(0.37)	....	10.589	0.189	0.212	0.669	BS	....
17578-056	0.11	0.27	0.06	9.558	0.144	0.235	0.690	BS	....
17581-078	0.03	0.31	0.13	10.591	0.169	0.237	0.689	BS	-2.08
17583-067	0.11	0.28	0.21	12.230	0.156	0.250	0.665	BS	....
17585-132	0.39	0.30	0.18	11.143	0.233	0.234	0.672	BS	-2.08

Table 9. Photometric absolute magnitudes and distances of the VMP stars

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
15621-006	TO	4.670	3.627	532	859	703	
15621-024	TO	4.246	3.760	1165	1457	1124	
15621-051	HB	0.452	.....	4842	...	4414	
15621-058	BS	.....	.....	...	...	1620	
15621-070	BS-TO	3.110	.....	761	...	615	
15621-073	SG	3.450	.....	1008	...	963	
15621-077	TO	4.343	3.325	760	1214	685	
15622-055	BS-TO	4.197	.....	921	...	1394	
15623-023	TO	.....	.....	...	...	923	
15624-040	TO	4.348	3.527	689	1005	824	
16026-006	TO	3.960	3.208	1163	1644	992	
16026-040	TO	4.227	3.587	664	892	802	
16026-068	TO	4.227	3.587	205	276	224	
16026-073	BS-TO	3.212	.....	1075	...	740	
16027-003	TO	4.670	3.627	657	1063	1038	
16027-029	TO	3.977	3.294	1740	2383	2465	
16027-043	SG	3.085	.....	2327	...	2322	
16027-046	TO	4.855	2.960	1016	2431	1163	
16027-049	HB	0.445	.....	3844	...	4565	
16027-073	SG	3.273	.....	1504	...	1274	
16033-008	SG	1.186	.....	3223	...	4100	
16033-081	RG	-0.636	.....	6181	...	6298	
16076-006	SG	2.473	.....	1551	...	817	
16076-040	TO	3.914	3.631	391	446	338	
16076-050	SG	2.809	.....	1085	...	474	
16077-007	TO	3.798	3.300	468	588	439	
16077-023	TO	3.977	3.294	437	598	471	
16081-038	TO	.....	.....	...	...	693	
16083-019	TO	.....	.....	...	...	573	
16083-096	TO	.....	.....	...	...	646	
16084-160	RG	-1.239	.....	7405	...	11355	
16085-050	RG	-0.163	.....	2820	...	3479	
16089-013	RG	-0.362	.....	5348	...	5940	
16089-042	HB	0.468	.....	5420	...	6189	
16089-086	HB	0.479	.....	5172	...	5528	
16090-038	SL-BHB	.....	.....	...	...	897	
16468-009	TO	.....	.....	...	...	816	
16469-075	RG	-0.457	.....	5793	...	6212	
16470-007	RG	-0.163	.....	6516	...	5768	
16470-061	TO	4.432	3.333	869	1442	843	
16470-062	MS	7.397	.....	176	...	265	
16472-092	TO	4.014	3.216	661	954	579	
16477-038	RHB-AGB	-0.720	.....	4650	...	4198	
16479-065	TO	.....	.....	...	...	390	
16541-022	BS-TO	4.405	.....	746	...	1208	
16541-052	HB	.....	.....	...	...	2690	
16543-068	TO	.....	.....	...	...	321	
16543-097	RG	0.395	.....	2647	...	2916	
16546-075	SG	3.121	.....	971	...	640	
16546-098	TO	3.906	3.862	982	1002	933	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
16547-049	TO	4.480	3.054	679	1309	798	
16548-009	SG	.....	.....	...	...	913	
16548-070	SG	1.309	.....	2909	...	2209	
16549-007	SG	.....	.....	...	...	1130	
16549-017	TO	4.206	3.213	427	675	716	
16549-043	MS	.....	.....	...	...	358	
16550-014	RHB-AGB	0.157	.....	2301	...	2586	
16550-043	HB	0.286	.....	6738	...	7475	
16551-118	SG	-1.091	.....	5007	...	302	
16552-042	HB	0.328	.....	7080	...	7089	
16552-086	SG	1.332	.....	4377	...	1248	
16557-012	TO	4.327	3.576	827	1170	1192	
16557-024	SG	3.698	.....	697	...	653	
16557-063	HB	.....	.....	...	...	5845	
16557-074	TO	4.115	3.205	406	617	340	
16558-001	HB	0.473	.....	4836	...	5428	
16558-021	TO	4.405	3.613	395	568	493	
16920-017	RG	-0.457	.....	7197	...	10696	
16927-017	TO	.....	.....	...	...	326	
16927-063	SG	.....	.....	...	...	1026	
16928-053	RG	-1.239	.....	8346	...	11371	
16929-005	RG (CH)	1.186	.....	3010	...	4506	
16929-035	TO	4.482	3.085	494	939	810	
16934-002	RG	-1.530	.....	7071	...	7624	
16934-018	TO	4.708	3.107	735	1535	716	
16934-060	SG	1.637	.....	3008	...	3014	
16968-061	TO	4.419	3.085	546	1009	532	
16972-003	TO	4.357	3.085	938	1685	944	
16972-009	TO	4.441	3.102	949	1758	744	
16972-013	TO	4.908	3.469	537	1042	629	
16972-041	TO	4.279	3.471	542	786	697	
16986-072	RG	-1.339	.....	8823	...	3668	
17136-014	HB	0.581	.....	3493	...	3807	
17139-007	TO	.....	.....	...	...	714	
17435-003	HB	0.296	.....	2229	...	2222	
17435-024	SG	.....	.....	...	...	944	
17438-020	SG	2.473	.....	1942	...	1211	
17438-082	BS (Am)	.....	.....	...	...	1089	
17439-054	SG	4.174	.....	537	...	543	
17439-055	BS	.....	.....	...	...	334	
17439-065	RHB-AGB	-0.475	.....	5704	...	5508	
17444-032	TO	4.351	3.306	644	1042	633	
17444-046	TO	4.351	4.123	556	617	517	
17444-059	BS-TO	3.583	.....	829	...	894	
17448-016	BS (Am)	.....	.....	...	...	289	
17448-033	BS	.....	.....	...	...	1016	
17569-011	SL	.....	.....	...	...	2	
17570-009	RHB-AGB	0.208	.....	3646	...	4404	
17570-011	HB	0.394	.....	2953	...	3223	
17572-057	SG	2.362	.....	1678	...	603	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
17572-067	TO	4.239	3.981	642	723	637	
17572-100	TO	.....	.....	...	...	450	
17574-129	HB	0.459	.....	898	...	1023	
17575-163	BS (Am)	.....	.....	...	...	681	
17575-168	SG	3.570	.....	722	...	908	
17575-169	BS (Am)	.....	.....	...	...	636	
17576-002	TO	4.239	3.981	171	193	181	
17576-027	RHB-AGB	0.054	.....	2141	...	2313	
17576-043	BS (Am)	.....	.....	...	...	245	
17576-071	TO	4.197	3.655	387	497	485	
17577-010	BS (Am)	.....	.....	...	...	346	
17577-012	BHB	.....	.....	...	...	949	
17578-056	BS (Am)	.....	.....	...	...	229	
17579-012	SL-BHB	.....	.....	...	...	394	
17581-075	BS-TO	4.603	.....	296	...	453	
17581-077	TO	.....	.....	...	...	626	
17581-078	BS (Am)	.....	.....	...	...	357	
17581-113	SG	3.673	.....	661	...	679	
17582-050	BS	.....	.....	...	...	400	
17582-096	TO (CH)	4.487	3.419	651	1064	1084	
17582-113	TO	4.521	3.765	469	664	529	
17583-067	BS (Am)	.....	.....	...	...	773	
17583-100	SG	3.215	.....	587	...	548	
17585-132	BS (Am)	.....	.....	...	...	386	
17586-014	SG	2.787	.....	667	...	212	
17586-048	TO	3.717	1.487	415	1159	342	
22166-024	TO	4.143	3.560	841	1100	1233	
22166-030	TO	4.911	2.992	521	1262	696	
22169-002	SL (CH)	.....	.....	...	...	7	
22169-008	TO	4.465	3.116	1169	2176	1606	
22169-019	TO	3.942	3.573	881	1044	730	
22169-035	RG	-1.477	.....	7023	...	9294	
22170-021	SG	3.348	.....	1392	...	1697	
22171-009	TO	4.384	3.085	606	1103	840	
22171-016	TO	4.291	3.116	559	960	828	
22171-031	TO	3.996	3.668	943	1096	903	
22171-034	TO	4.174	3.492	638	873	725	
22171-037	TO	4.162	3.239	1384	2118	3728	
22172-002	RG	-0.362	.....	3776	...	5970	
22172-019	TO	3.522	-2.362	1271	19090	1262	
22172-033	TO	5.275	3.153	461	1224	611	
22172-035	TO	4.110	3.849	1031	1162	1325	
22173-002	TO	3.919	3.622	768	881	678	
22173-014	TO	3.691	3.673	975	983	946	
22173-015	TO	4.352	3.518	577	847	459	
22174-007	RG	0.538	.....	2269	...	2124	
22174-020	TO	4.317	3.146	1330	2280	2416	
22175-013	TO	3.944	3.361	606	793	746	
22176-018	SG	4.001	.....	725	...	638	
22177-009	TO	4.313	3.146	926	1585	768	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
22177-010	TO	4.075	3.177	1038	1569	938	
22180-005	SG	3.089	.....	1471	...	1634	
22180-014	TO	4.594	3.167	609	1175	456	
22180-034	TO	4.317	3.384	955	1468	674	
22180-036	SG	3.073	.....	2274	...	1067	
22182-022	TO	3.923	3.612	623	719	791	
22182-033	SG	3.225	.....	1864	...	1511	
22182-047	SG	3.503	.....	825	...	821	
22185-006	TO	4.249	3.539	902	1250	677	
22185-007	RG	0.622	.....	3180	...	3511	
22185-025	TO	4.070	3.177	952	1436	726	
22186-002	SG	3.123	.....	1031	...	1032	
22186-005	HB	0.302	.....	3352	...	3678	
22186-017	TO	4.710	2.992	564	1245	684	
22186-020	HB	0.438	.....	3482	...	4027	
22186-023	RG	-2.595	.....	47938	...	3642	Mis-ID for UBV
22186-025	RG	-0.059	.....	6904	...	7382	
22188-006	TO	4.229	3.799	347	423	263	
22188-033	TO	4.906	2.992	449	1085	491	
22188-048	RG	-0.722	.....	3358	...	6462	
22189-009	RG	-0.722	.....	8164	...	10106	
22189-018	TO	4.064	3.208	1741	2582	1555	
22189-036	TO	4.424	3.353	939	1538	1010	
22190-007	RHB-AGB	0.376	.....	5573	...	6260	
22191-019	TO	4.296	3.432	523	778	832	
22191-024	RHB-AGB	-0.369	.....	5877	...	6634	
22191-029	HB	0.355	.....	5328	...	5818	
22871-084	BHB	.....	.....	...	...	1109	
22871-107	TO	4.074	3.292	834	1195	697	
22872-010	HB	0.413	.....	5446	...	5403	
22872-036	SG	3.205	.....	1746	...	1693	
22872-079	TO	4.215	3.193	1210	1936	990	
22872-102	TO	4.110	3.214	583	880	475	
22873-055	RG	-1.239	.....	5347	...	6056	
22873-072	TO	3.972	3.303	1249	1699	772	
22873-128	RG	0.643	.....	2835	...	2795	
22873-139	TO	4.054	3.239	856	1246	726	
22873-166	RG	-1.767	.....	4927	...	5040	
22874-012	BHB	.....	.....	...	...	6442	
22875-029	HB	0.367	.....	4534	...	4973	
22876-029	HB	0.286	.....	6288	...	7537	
22876-032	TO	4.839	3.085	393	881	438	
22876-034	HB	0.657	.....	4060	...	4758	
22876-039	BS-TO	.....	.....	...	...	1575	
22876-042	TO	3.808	3.643	718	775	972	
22877-011	SG	1.958	.....	2268	...	1172	
22877-013	MS	5.310	.....	694	...	769	
22877-015	SG	3.728	.....	751	...	986	
22877-051	TO	.....	.....	...	...	835	
22878-002	TO	4.296	3.221	932	1529	792	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
22878-003	TO	4.253	3.529	977	1364	1358	
22878-013	TO	4.197	3.655	582	747	760	
22878-027	TO	4.255	3.116	972	1642	746	
22879-012	TO	4.080	3.177	1269	1922	1645	
22879-029	TO (CH)	4.440	3.314	949	1594	886	
22879-051	TO	3.944	3.361	921	1205	1012	
22879-092	TO	4.313	3.146	1145	1958	1208	
22880-013	TO	3.991	3.264	819	1144	618	
22880-058	TO	3.866	3.270	1270	1671	1717	
22880-067	TO	4.989	2.931	930	2400	1208	
22880-109	TO	4.627	3.301	902	1661	1283	
22881-032	TO	4.036	3.208	1684	2466	1098	
22881-036	TO (CH)	5.029	2.947	594	1550	592	
22881-039	HB	0.203	.....	9574	...	9302	
22881-070	TO	4.165	3.146	1093	1748	914	
22882-008	TO	4.147	3.146	896	1420	1211	
22882-012	BS-TO	4.269	.....	1556	...	2464	
22882-027	TO	4.855	2.992	1109	2614	1725	
22882-030	TO	4.170	3.146	1317	2110	2872	
22883-004	TO	4.434	3.545	881	1326	985	
22883-020	TO	4.192	3.242	1145	1774	2035	
22884-006	BHB	.....	.....	...	...	2893	
22884-033	TO	4.140	3.177	961	1498	835	
22884-108	TO	4.428	3.116	762	1394	766	
22885-034	TO	3.850	3.353	841	1057	827	
22885-096	RG	0.907	.....	2802	...	4293	
22885-143	RG	0.224	.....	5131	...	6336	
22886-012	SG	3.107	.....	1785	...	1809	
22887-005	TO	.....	.....	...	...	1627	
22887-048	BS-TO (CH)	.....	.....	...	...	548	
22888-014	TO	4.322	3.162	1026	1750	902	
22888-031	TO	4.728	3.023	1067	2340	860	
22889-050	TO	.....	.....	...	...	1720	
22890-011	TO	3.893	3.266	1314	1754	1568	
22890-064	TO	4.033	3.177	1284	1904	1249	
22890-074	SL-BHB	.....	.....	...	...	1011	
22891-047	RG	.....	.....	...	...	7125	
22891-171	MS (CH)	7.325	.....	224	...	539	
22891-200	RG	-0.722	.....	7599	...	10294	
22891-209	RG	-0.457	.....	3033	...	4667	
22892-025	TO	4.046	3.350	951	1310	717	
22892-041	TO	3.896	3.670	1154	1280	1247	
22893-005	TO	5.339	2.979	564	1673	898	
22893-015	TO	4.583	3.023	1044	2141	1480	
22893-030	TO	4.720	3.078	747	1591	980	
22894-019	TO	4.558	3.043	714	1435	587	
22894-023	TO	4.327	3.116	734	1283	1398	
22894-049	TO	4.696	3.136	860	1763	672	
22898-023	TO	4.393	3.085	978	1786	1641	
22898-027	TO (CH)	4.880	2.931	341	836	448	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
22898-043	HB	0.328	.....	5193	...	5702	
22898-047	TO	5.544	2.715	504	1853	633	
22936-242	TO	4.428	3.132	771	1400	610	
22937-087	SL-BHB	.....	.....	...	...	1226	
22939-272	RHB-AGB	0.086	.....	4006	...	4215	
22941-015	TO	.....	.....	...	...	2020	
22941-027	HB	0.351	.....	5339	...	5506	
22942-024	TO	4.362	3.085	886	1595	913	
22943-059	TO	.....	.....	...	...	1265	
22943-095	TO	.....	.....	...	...	301	
22943-132	TO	.....	.....	...	...	528	
22943-137	TO	.....	.....	...	...	1041	
22943-201	TO (CH)	.....	.....	...	...	1223	
22944-011	TO	3.799	3.662	401	427	351	
22944-014	SG	3.397	.....	1317	...	1156	
22944-061	SG	3.124	.....	1638	...	1628	
22945-017	TO (CH)	4.386	3.116	992	1780	942	
22945-063	RHB-AGB	0.320	.....	6755	...	7534	
22946-011	BS-TO	4.082	.....	928	...	1570	
22946-014	TO	4.041	3.571	963	1195	908	
22947-114	SG	3.869	.....	913	...	1592	
22947-302	RG	-0.059	.....	5898	...	5608	
22948-027	SL (CH)	.....	.....	...	...	3	
22948-043	BHB	.....	.....	...	...	3914	
22948-093	TO	4.630	3.177	1270	2479	2156	
22948-104	SG (CH)	2.077	.....	2313	...	1078	
22949-007	TO	4.572	3.054	623	1254	789	
22949-008	TO (CH)	4.987	3.053	648	1579	842	
22949-029	TO	4.595	3.379	946	1657	739	
22949-030	TO	4.305	3.201	766	1273	823	
22949-037	RG (CNO)	-0.362	.....	8192	...	14716	
22949-048	RG	-0.883	.....	7689	...	7325	
22949-052	TO	3.983	3.486	901	1133	874	
22950-046	RG	.....	.....	...	...	15567	
22950-063	RHB-AGB	-0.720	.....	8804	...	8504	
22950-078	TO	3.944	3.361	1253	1639	1312	
22950-096	TO	4.171	3.713	799	986	1005	
22950-153	SG	3.394	.....	1077	...	765	
22950-173	TO	4.230	3.146	853	1405	680	
22951-060	BHB	.....	.....	...	...	3031	
22952-004	TO	4.023	3.610	728	881	632	
22952-011	TO	4.318	3.116	738	1283	1042	
22952-015	RHB-AGB	-1.257	.....	7704	...	6858	
22953-037	TO	4.060	3.208	790	1169	654	
22954-004	TO	4.471	3.054	873	1677	1453	
22955-032	TO	.....	.....	...	...	1027	
22955-054	BHB	.....	.....	...	...	7482	
22955-117	TO	4.103	3.436	1037	1411	1126	
22955-174	RHB-AGB	0.245	.....	6252	...	6811	
22956-017	SL-BHB	.....	.....	...	...	1276	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
22957-019	TO	4.108	3.637	797	991	635	
22957-022	RG	1.637	.....	2099	...	3076	
22957-024	TO	4.005	3.235	1098	1564	1044	
22958-037	RHB-AGB	.....	.....	...	...	9927	
22958-041	TO	.....	.....	...	...	1984	
22958-042	TO (CH)	5.241	2.869	687	2049	828	
22958-052	TO	.....	.....	...	...	1060	
22958-065	SG	.....	.....	...	...	1451	
22958-074	TO	.....	.....	...	...	822	
22959-231	TO	.....	.....	...	...	885	
22960-053	RG (CH)	-0.457	.....	11249	...	10622	
22960-060	TO	.....	.....	...	...	1958	
22961-002	TO	.....	.....	...	...	834	
22961-021	SG	2.992	.....	1384	...	1013	
22961-023	TO	4.541	3.054	307	610	377	
22961-054	TO	4.521	3.765	1032	1462	1421	
22962-021	TO	5.220	3.087	432	1154	657	
22963-004	SG	2.777	.....	2568	...	1609	
22964-176	TO	4.074	3.292	1591	2281	1001	
22964-183	TO	3.977	3.294	1125	1541	1170	
22964-214	TO	3.753	3.300	842	1038	774	
22965-029	RHB-AGB	0.076	.....	4957	...	4797	
22965-035	TO	.....	.....	...	...	1101	
22965-054	SG	2.838	.....	2354	...	2396	
22965-075	TO	.....	.....	...	...	1203	
22966-011	TO	4.797	2.992	880	2020	792	
22966-019	TO	.....	.....	...	...	648	
22966-048	TO	.....	.....	...	...	1321	
22966-057	SG	2.328	.....	2421	...	669	
22967-019	BS-TO	3.928	.....	1100	...	1079	
22968-001	TO	4.264	3.116	1210	2053	1317	
22968-014	RG	-0.457	.....	6624	...	8080	
22968-026	TO	4.432	3.333	877	1454	960	
22968-029	TO	4.515	3.054	876	1717	730	
29491-053	RG	-0.804	.....	5350	...	7194	
29491-069	SG	1.728	.....	1829	...	2196	
29491-076	TO	4.280	4.086	452	495	638	
29491-084	TO	4.396	3.116	647	1166	777	
29491-100	SG	3.113	.....	1274	...	888	
29493-023	TO	3.972	3.303	1274	1733	1074	
29493-050	TO	4.103	3.177	1093	1675	865	
29493-062	TO	4.772	3.164	458	961	521	
29493-094	TO	4.042	3.360	1007	1379	1084	
29494-020	SG (CH)	2.931	.....	1742	...	1165	
29495-005	TO	4.050	3.552	1070	1345	1395	
29495-041	RG	-0.636	.....	5895	...	4815	
29497-026	SL-BHB	.....	.....	...	...	1483	
29497-030	BS-TO	.....	.....	...	...	554	
29498-043	RG (CH)(CN)	-1.886	.....	11459	...	16520	
29499-003	TO	3.794	3.672	1221	1292	1419	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
29499-058	TO	4.228	3.164	783	1279	1026	
29499-060	TO	4.117	3.177	589	908	803	
29499-065	TO	4.234	3.146	1544	2549	2166	
29501-051	RHB-AGB	0.074	.....	5786	...	5231	
29502-092	RG (CH)	0.395	.....	1710	...	1990	
29503-017	TO	.....	.....	...	...	1093	
29503-026	TO	.....	.....	...	...	1127	
29504-006	TO	4.234	3.146	1093	1804	1276	
29504-018	TO	4.202	3.146	768	1248	688	
29505-013	MS	5.421	.....	730	...	734	
29506-007	TO	3.969	3.208	1041	1478	920	
29506-090	TO	4.126	3.177	1023	1583	915	
29509-027	BS-TO	.....	.....	...	...	542	
29509-032	TO	4.161	3.146	758	1209	525	
29509-047	TO	.....	.....	...	...	909	
29510-054	SG	3.110	.....	1590	...	1575	
29512-006	TO	4.547	3.495	886	1439	833	
29512-013	HB	0.411	.....	4139	...	5028	
29512-015	TO	4.728	3.059	846	1825	1122	
29512-030	TO	.....	.....	...	...	735	
29512-043	TO	.....	.....	...	...	539	
29512-076	HB	.....	.....	...	...	5231	
29512-081	BS-TO	.....	.....	...	...	723	
29513-014	SG	.....	.....	...	...	1330	
29513-015	TO	3.673	3.924	1268	1129	770	
29513-031	TO	3.968	3.239	1630	2280	1219	
29514-007	TO	.....	.....	...	...	1002	
29514-018	TO	.....	.....	...	...	766	
29514-037	TO	.....	.....	...	...	741	
29515-060	MS	.....	.....	...	...	783	
29516-028	MS	4.936	.....	864	...	697	
29517-042	TO	3.964	3.525	1020	1249	711	
29518-005	TO	.....	.....	...	...	1254	
29518-020	TO	4.644	3.054	722	1502	734	
29518-027	TO	.....	.....	...	...	707	
29518-033	BS	.....	.....	...	...	1291	
29518-039	BS-TO	.....	.....	...	...	1128	
29518-043	TO	4.430	3.177	1037	1846	1215	
29518-045	TO	4.246	3.760	1382	1728	2371	
29518-051	RG	1.346	.....	2122	...	2567	
29519-080	TO	4.331	3.143	669	1156	1085	
29519-132	TO	.....	.....	...	...	1493	
29519-133	TO	4.165	3.146	525	840	819	
29520-089	TO	4.414	3.116	1044	1899	1767	
29522-046	TO	4.157	3.531	445	594	413	
29526-108	SG	.....	.....	...	...	981	
29526-110	BS-TO	4.144	.....	674	...	731	
29526-126	SG	.....	.....	...	...	1166	
29526-147	TO	.....	.....	...	...	1183	
29526-148	TO	.....	.....	...	...	1115	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
29527-015	TO	4.469	3.116	878	1639	1789	
29527-048	SG	2.900	.....	2364	...	1914	
29527-057	HB	0.309	.....	4589	...	4918	
29528-028	BS-TO	4.111	.....	1168	...	1560	
29528-030	TO	.....	.....	...	...	995	
29528-041	TO	4.649	3.054	937	1953	1809	
29529-054	TO	5.435	2.929	728	2309	914	
29529-119	TO	4.313	3.393	1008	1540	815	
30301-024	TO	4.193	3.146	518	839	473	
30302-145	TO	4.244	3.239	1029	1634	1280	
30303-090	TO	3.981	3.284	670	924	714	
30308-035	RG	0.395	.....	4856	...	6397	
30308-062	TO	4.386	3.116	745	1337	503	
30308-104	TO	4.306	3.836	499	620	387	
30310-023	SG	.....	.....	...	...	2140	
30311-022	TO	4.089	3.177	981	1493	765	
30311-068	BS-TO	2.863	.....	1701	...	1228	
30312-062	HB	0.268	.....	2444	...	3076	
30312-165	BS-TO	.....	.....	...	...	457	
30314-067	RG (CH)	-2.133	.....	5664	...	6394	
30314-177	TO	4.257	3.146	417	695	445	
30315-059	BS-TO	.....	.....	...	...	1632	
30315-060	BHB	.....	.....	...	...	4675	
30315-076	SG	2.460	.....	1760	...	620	
30315-093	SG	2.746	.....	1855	...	1838	
30320-069	TO	4.615	3.330	947	1712	822	
30320-075	HB	0.358	.....	1270	...	1245	
30320-109	RHB-AGB	0.104	.....	5477	...	5415	
30322-007	TO	4.814	3.692	441	740	882	
30322-009	SG	3.653	.....	1054	...	1594	
30322-066	SG	3.303	.....	1193	...	925	
30323-036	SG	3.548	.....	758	...	791	
30323-047	TO	4.769	2.962	772	1775	756	
30323-048	TO	4.553	3.146	311	594	333	
30323-088	TO	4.265	3.288	1107	1737	1052	
30324-024	RHB-AGB	-0.095	.....	4232	...	3619	
30324-045	TO	.....	.....	...	...	1033	
30325-028	RG	-0.264	.....	4000	...	4389	
30325-094	RG	0.517	.....	2167	...	2924	
30329-004	RG	0.161	.....	1833	...	1826	
30331-060	TO	.....	.....	...	...	788	
30331-126	HB	.....	.....	...	...	2683	
30332-012	TO	5.120	2.869	708	1997	695	
30333-002	MS	4.323	.....	217	...	138	
30333-047	TO	4.876	3.546	428	790	738	
30336-049	RG	-0.804	.....	8383	...	13944	
30336-067	SG	2.125	.....	2582	...	1991	
30337-097	RG	0.161	.....	3883	...	5255	
30338-119	MS	5.758	.....	381	...	327	
30339-002	SG	.....	.....	...	...	1299	

Table 9. Photometric absolute magnitudes and distances. Continued...

STAR	CLASS	$M_{V,1}$	$M_{V,2}$	D_1	D_2	D_{uvby}	Notes
30339-019	TO	.....	.....	...	...	798	
30339-041	RHB-AGB	0.216	.....	5404	...	1796	
30339-046	HB	0.312	.....	9851	...	10328	
30339-049	TO	.....	.....	...	...	1515	
30339-069	TO	4.187	3.177	1278	2034	1127	
30339-080	TO	4.046	3.350	1344	1853	1166	
30343-044	SG	2.871	.....	1377	...	494	
30344-070	TO	4.229	3.177	1081	1755	2236	
30344-075	SG	2.258	.....	1804	...	2541	
30492-016	MS	4.676	.....	667	...	554	
30493-001	TO	.....	.....	...	...	481	
30493-028	RHB-AGB	0.169	.....	3925	...	4207	
30493-071	SG	3.285	.....	939	...	1044	
30494-003	SG	.....	.....	...	...	906	
30494-016	TO	.....	.....	...	...	1125	
31061-057	HB	0.245	.....	4309	...	5536	
31061-062	TO	4.559	3.466	678	1121	577	
31062-012	TO (CH)	5.175	2.869	236	682	255	
31063-050	TO	4.633	3.503	215	362	375	
31063-072	TO	4.900	2.931	669	1656	617	
31064-031	SL-BHB	.....	.....	...	...	605	
31064-060	HB	.....	.....	...	...	3683	
31064-113	MS (CH)	.....	.....	...	...	195	
31065-040	HB	0.351	.....	3398	...	3632	
31066-001	MS	5.300	.....	334	...	316	
31066-027	BS-TO	.....	.....	...	...	438	
31067-019	TO	3.669	3.712	525	514	317	
31068-033	TO	4.631	3.080	641	1309	1662	
31068-042	RHB-AGB	-0.358	.....	6410	...	6510	
31070-080	SL-BHB	.....	.....	...	...	757	
31072-118	RG	-1.530	.....	6818	...	8322	
31074-063	TO	3.615	3.440	298	323	249	
31076-028	SG	2.845	.....	1871	...	1315	
31076-034	SG	2.981	.....	1537	...	1087	
31079-004	TO	3.996	3.668	596	693	517	
31080-095	MS (CH)	5.742	.....	278	...	339	
31081-003	SG	0.830	.....	2752	...	284	
31081-049	RG	-1.582	.....	7943	...	13341	
31081-059	TO	.....	.....	...	...	1232	
31082-001	RG	-0.548	.....	2738	...	2953	
31083-069	RHB-AGB	0.886	.....	1329	...	512	
31084-022	TO	3.164	-3.198	349	6535	358	
31085-024	SG	2.684	.....	1566	...	1935	
31087-013	TO	5.247	2.838	431	1306	907	
31087-045	TO	4.883	3.104	452	1025	473	
31089-055	TO	4.355	3.296	896	1460	1146	
31090-086	TO	.....	.....	...	...	348	